

07/08/2007,10531330c.trn

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PASSWORD:

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SESSION RESUMED IN FILE 'HCAPLUS' AT 14:30:55 ON 07 AUG 2007
FILE 'HCAPLUS' ENTERED AT 14:30:55 ON 07 AUG 2007
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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	187.05	901.08
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-27.30	-55.38
 => file reg		
COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	187.05	901.08
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-27.30	-55.38

FILE 'REGISTRY' ENTERED AT 14:31:11 ON 07 AUG 2007
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STRUCTURE FILE UPDATES: 6 AUG 2007 HIGHEST RN 944108-38-7
DICTIONARY FILE UPDATES: 6 AUG 2007 HIGHEST RN 944108-38-7

New CAS Information Use Policies, enter HELP USAGETERMS for details.

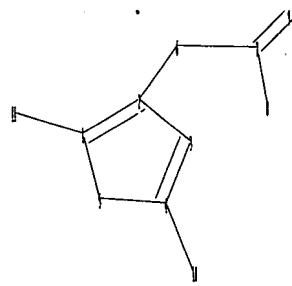
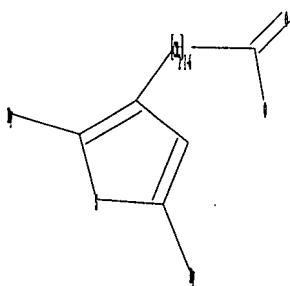
TSCA INFORMATION NOW CURRENT THROUGH December 2, 2006

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document. For information
on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stndoc/properties.html>

=>
Uploading C:\Program Files\Stnexp\Queries\10531330c.str



chain nodes :

6 7 8 9 10 11

ring nodes :

1 2 3 4 5

chain bonds :

1-11 2-6 4-10 6-7 7-8 7-9

ring bonds :

1-5 1-2 2-3 3-4 4-5

exact/norm bonds :

1-5 1-2 1-11 2-3 3-4 4-5 4-10 7-8 7-9

exact bonds :

2-6 6-7

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:CLASS 7:CLASS 8:CLASS 9:CLASS 10:Atom
11:Atom

Generic attributes :

10:

Saturation : Unsaturated

Number of Carbon Atoms : less than 7

Type of Ring System : Monocyclic

11:

Saturation : Unsaturated

Number of Carbon Atoms : less than 7

Number of Hetero Atoms : Exactly 1

Type of Ring System : Monocyclic

Element Count :

Node 11: Limited

S,S1

C,C4

O,O0

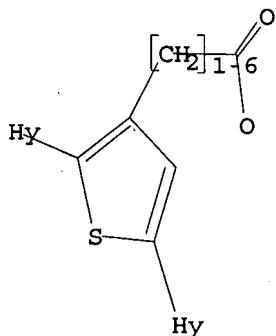
N,N0

L13 STRUCTURE UPLOADED

=> d 113

L13 HAS NO ANSWERS

L13 STR



Structure attributes must be viewed using STN Express query preparation.

=>

s 113

SAMPLE SEARCH INITIATED 14:31:31 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 5337 TO ITERATE

37.5%

PROCESSED 2000 ITERATIONS

INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)

SEARCH TIME: 00.00.01

1 ANSWERS

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 102360 TO 111120
PROJECTED ANSWERS: 1 TO 151

L14 1 SEA SSS SAM L13

=> s 113 full

FULL SEARCH INITIATED 14:31:36 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 105915 TO ITERATE

100.0% PROCESSED 105915 ITERATIONS
SEARCH TIME: 00.00.05

71 ANSWERS

L15 71 SEA SSS FUL L13

=> file hcplus

COST IN U.S. DOLLARS

SINCE FILE
ENTRY

FULL ESTIMATED COST

172.10

TOTAL
SESSION

1073.18

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE
ENTRY

CA SUBSCRIBER PRICE

0.00

TOTAL
SESSION

-55.38

FILE 'HCAPLUS' ENTERED AT 14:31:46 ON 07 AUG 2007
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FILE COVERS 1907 - 7 Aug 2007 VOL 147 ISS 7
FILE LAST UPDATED: 6 Aug 2007 (20070806/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s 115
L16 37 L15

=> d ed abs ibib hitstr tot

L16 ANSWER 1 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ED Entered STN: 21 Feb 2007

AB Two novel polynorbornenes functionalized with electronically active conjugated oligomer units in the side chain were synthesized by the ring-opening metathesis polymerization (ROMP) method. Both polymers showed good optical characteristics, thermal stability, film-forming properties, and interesting electrochem. properties. The photophys. and redox behaviors of the polymers are markedly different due to variation in the structure of the pendant oligomers. The polymer with Ph end-capped oligothiophene co-oligomer in the side chain showed much higher stability toward electrochem. oxidation than the one with a sexithiophene in the side chain.

This was demonstrated by in-situ study of the changes in absorption spectra of the polymer films while varying the potential in electrochem. expts. During the p-doping process, the polymer with Ph end-capped oligothiophene co-oligomer in the side chain exhibited highly reversible changes in its absorption peaks when monitored at 430 and 650 nm, and the p-doping/dedoping processes can be repeated many cycles. In sharp contrast, the polymer with a sexithiophene side chain was shown to be electrochem. unstable under the same conditions. Single-layer photovoltaic cells were fabricated with the polymers as the active organic layer, and their relative performances were compared. These single-layer devices showed relatively large open-circuit voltage and moderate short-circuit current. In addition, the solar cell fabricated from the polymer with Ph end-capped oligothiophene co-oligomer showed better device stability under ambient conditions than that from the one with a sexithiophene side chain, which can be attributed to the higher stability of Ph end-capped oligothiophene co-oligomer compared to that of the sexithiophene.

ACCESSION NUMBER: 2007:189412 HCAPLUS

DOCUMENT NUMBER: 146-442445

TITLE: Synthesis, Characterization, and Properties of Homopolymers Functionalized with Oligothiophene Derivatives in the Side Chain

AUTHOR(S): Zhao, Chunchang; Zhang, Yong; Pan, Shanlin; Rothberg, Lewis; Ng, Man-Kit

CORPORATE SOURCE: Department of Chemistry and Department of Chemical Engineering, University of Rochester, Rochester, NY, 14627, USA

SOURCE: Macromolecules (Washington, DC, United States) (2007), 40(6), 1816-1823

CODEN: MAMOBX; ISSN: 0024-9297

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

IT 934498-93-8P 934498-96-1P

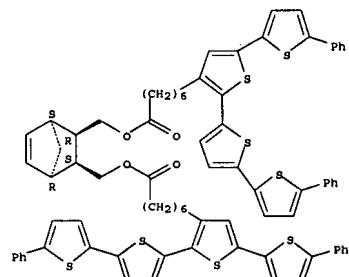
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(monomer; preparation, characterization, and properties of homopolymers
functionalized with oligothiophene derivs. in side chain)

RN 934498-93-8 HCAPLUS

L16 ANSWER 1 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

CN [2,2':5',2'':5'',2''':-diphenyl-,
3'',3''':-((1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-
diylbis(methylene)) ester, rel- (CA INDEX NAME)

Relative stereochemistry.

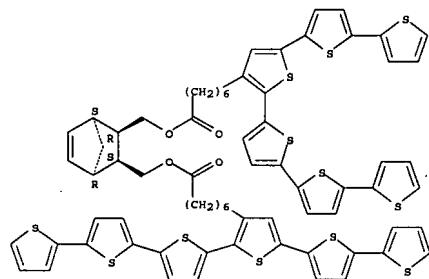


RN 934498-96-1 HCAPLUS

CN [2,2':5',2'':5'',2''':5'',2''':-Sexithiophene]-3''':-
heptanoic acid, 3'',3''':-((1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-
2,3-diylbis(methylene)) ester, rel- (CA INDEX NAME)

Relative stereochemistry.

L16 ANSWER 1 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



IT 934498-97-2P 934498-98-3P 934498-99-4P

934499-00-0P

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation, characterization, and properties of homopolymers
functionalized with oligothiophene derivs. in side chain)

RN 934498-97-2 HCAPLUS

CN [2,2':5',2'':5'',2''':-Quaterthiophene]-3''':heptanoic acid,

5,5''':-diphenyl-,
3'',3''':-((1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-
diylbis(methylene)) ester, rel-, homopolymer (CA INDEX NAME)

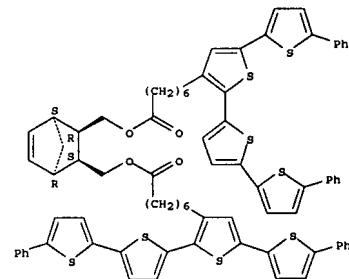
CM 1

CRN 934498-93-8

CMP C79 H70 O4 S8

Relative stereochemistry.

L16 ANSWER 1 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 934498-98-3 HCAPLUS

CN Poly[[(4R,5S)-4,5-bis{[(7-(5,5''':-diphenyl[2,2':5',2'':5'',2''':-
quaterthiophen]-3''':yl)-1-oxoheptyl]oxy)methyl]-1,3-cyclopentanediyl]-1,2-
ethenediyl], rel- (CA INDEX NAME)

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

RN 934498-99-4 HCAPLUS

CN Heptanoic acid, 2,2':5',2'':5'',2''':5'',2''':-
sexithiophen]-3''':yl-, 1,1'-((1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-
diylbis(methylene)) ester, rel-, homopolymer (CA INDEX NAME)

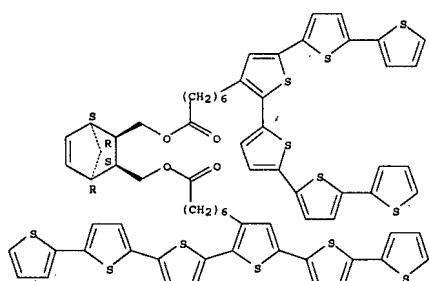
CM 1

CRN 934498-96-1

CMP C71 H62 O4 S12

Relative stereochemistry.

L16 ANSWER 1 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 934499-00-0 HCAPLUS

CN Poly[[(4R,5S)-4,5-bis[(1-oxo-7-[2',5',2'',5'',2''',5''',2''''',5''''',2''''''-sexithiophen]-3'-(1-heptyl)oxy]methyl]-1,3-cyclopentanediyl]-1,2-ethenediyl], rel- (CA INDEX NAME)

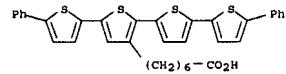
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* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *
IT 934498-91-6P 934498-95-0P
RL: RCT (Reactant), SPN (Synthetic preparation), PREP (Preparation), RACT (Reactant or reagent)

(preparation, characterization, and properties of homopolymers functionalized with oligothiophene derivs. in side chain)

RN 934498-91-6 HCAPLUS

CN [2,2';5',2'',5'',2''-Quaterthiophene]-3''-heptanoic acid, 5,5''-diphenyl- (CA INDEX NAME)



RN 934498-95-0 HCAPLUS

L16 ANSWER 2 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ED Entered STN: 05 Dec 2006

AB A comparative anal. of the copolymer. mechanism of an electro-active terthiophene and a carbazole moiety of a conjugated polymer precursor was carried out using electrochem. and hyphenated electrochem. methods. Five different precursor polymers were first synthesized and characterized using NMR, IR, and GPC. The polymers include homopolymers of individual electro-active groups, poly[ethyl-2-(2,5-di(thiophen-2-yl)thiophen-3-yl)ethyl methacrylate] (P3T) and poly[2-(9H-carbazol-9-yl)ethyl methacrylate] (P-CBZ) and different compns. of 25%, 50%, and 75% (P3TC-25, P3TC50, and P3TC-75) with respect to the two electro-active groups.

Since the oxidation potential of terthiophene and carbazole lie close to each other, highly cross-linked copolymer films of varying extent were produced depending on the composition. The copolymer extent was dependent primarily on the amount of the terthiophene, which in this case provided for a more efficient carbazole polymerization and copolymer. than with just carbazole alone (homopolymer). The extent of copolymer., electrochromic properties, and viscoelastic changes was quant. studied using a number of hyphenated electrochem. techniques: spectro-electrochem., electrochem. quartz crystal

microbalance studies (EC-QCM), and electrochem. surface plasmon resonance spectroscopy (EC-SPR). Each technique revealed a unique aspect of the electrocopolymer. behavior that was used to define structure-property relationships and the deposition/copolymer. mechanism.

ACCESSION NUMBER: 20061264981 HCAPLUS

DOCUMENT NUMBER: 146163528

TITLE: Quantitative electrochemical and electrochromic behavior of terthiophene and carbazole containing conjugated polymer network film precursors: EC-QCM

and

AUTHOR(S): Taranekar, Prasad; Fulghum, Timothy; Baba, Akira; Patton, Derek; Advincula, Rigoberto

CORPORATE SOURCE: Department of Chemistry and Department of Chemical Engineering, University of Houston, Houston, TX, 77204-5003, USA

SOURCE: Langmuir (2007), 23(2), 908-917

CODEN: LANGD5; ISSN: 0743-7463

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

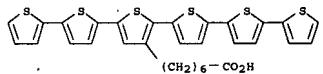
LANGUAGE: English

IT 163463-80-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(redox electrochem. and electrochromism of prepared terthiophene and carbazole containing conjugated homo- and co-polymer networks)

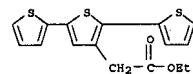
RN 163463-80-7 HCAPLUS

CN [2,2';5',2''-Terthiophene]-3'-acetic acid, ethyl ester (CA INDEX NAME)

L16 ANSWER 1 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)
CN [2,2';5',2'',5'',2''',5''',2''''',5''''',2''''''-Sexithiophene]-3''-heptanoic acid (CA INDEX NAME)

REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE REFORMAT

L16 ANSWER 2 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



REFERENCE COUNT: 52 THERE ARE 52 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE REFORMAT

L16 ANSWER 3 OF 37 HCPLUS COPYRIGHT 2007 ACS on STN

ED Entered STN: 10 Aug 2006

AB Described are conjugated polymer fibers prepared by the method comprising electrospinning a solution of intrinsically conductive polymer, intrinsically conductive polymer precursor, or a combination thereof to form a fiber, and crosslinking the intrinsically conductive polymer, intrinsically conductive polymer precursor, or a combination thereof. The conjugated polymer fibers, which can be nanofibers, may be formed into structures in the form of a nonwoven mat or a mat comprising aligned conjugated polymer fibers, or formed into an article such as an electrochromic window or display device. A method of preparing a micropattern of conjugated polymer

fiber is further disclosed.

ACCESSION NUMBER: 20061792922 HCPLUS

DOCUMENT NUMBER: 145:239247

TITLE: Electrically conductive conjugated polymer fiber, preparation and use thereof

INVENTOR(S): Mather, Patrick T.; Sotzing, Gregory A. University of Connecticut, USA

SOURCE: PCT Int. Appl., 73pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

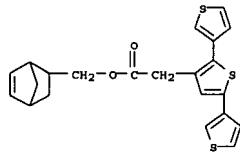
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006084088	A1	20060810	WO 2006-U3764	20060131
W:	AS, AG, AL, AM, AT, AU, A2, BA, BB, BG, BR, BN, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, BB, BG, BS, FI, GD, GD, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KO, KP, KR, KZ, LC, LR, LS, LT, LU, LV, LY, MA, MD, MA, MK, MN, MM, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TR, TT, T2, UA, UG, US, VE, VC, VN, YU, ZA, ZM, ZW			
RW:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IS, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, A2, BY, RU, KZ, MD, RU, TJ, TM			
US 2007089845	A1	20070426	US 2006-343552	20060131
PRIORITY APPLN. INFO.:			US 2005-648588P	P 20050131

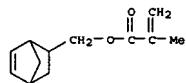
IT 905276-47-3P, Bicyclo[2.2.1]hept-5-en-2-ylmethyl acetate-bicyclo[2.2.1]hept-5-en-2-ylmethyl (2,5-bis(thiophen-3-yl)chlorophen-3-yl)acetate copolymer 905276-48-4P, Bicyclo[2.2.1]hept-5-en-2-ylmethyl acetate-bicyclo[2.2.1]hept-5-en-2-ylmethyl (2,5-bis(thiophen-3-yl)chlorophen-3-yl)acetate-bicyclo[2.2.1]hept-5-en-2-ylmethyl methacrylate copolymer
 RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PYP (Physical process); TBM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
 (elec. conductive conjugated polymer electrosynthesized nanofibers for elec.

L16 ANSWER 3 OF 37 HCPLUS COPYRIGHT 2007 ACS on STN

(Continued)



CM 2

CRN 36578-43-5
CMP C12 H16 O2

CM 3

CRN 6143-29-9
CMP C9 H12 O2

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 3 OF 37 HCPLUS COPYRIGHT 2007 ACS on STN (Continued)

ED Entered STN: 01 Jun 2006

AB New processable, electroactive, alternate copolymers consisting of dialkylbithiophene units and oligoanilinethiophene units have been prepared by post-polymerization functionalization of a specially prepared precursor polymer,

namely poly[(4,4''-dioctyl-2,2':5',2''-terthiophene-3'-yl)ethyl acetate], carried out via its hydrolysis and consecutive branching aniline dimer or tetramer through the amidation reaction. The precursor polymer is interesting by itself because it gives a very clear spectroelectrochem. response over a very narrow potential range. The proposed method enables the preparation of regiochem. better defined alkylthiophene-oligoanilinethiophene copolymers with higher content of oligoaniline side groups as compared to previously used methods. Cyclic voltammetry investigations combined with UV-vis-NIR, EPR and Raman spectroelectrochem. show that both the oligoaniline side groups and poly(thiénylene) main chain are electrochem. active. Significant differences for the side group electrochem. are observed in acidified and nonacidified electrolytes making the prepared new copolymer a good candidate for electrochromic applications in diversified electrolytes.

ACCESSION NUMBER: 2006511546 HCPLUS

DOCUMENT NUMBER: 145:167684

TITLE: Alternate copolymers of head to head coupled dialkylbithiophenes and oligoaniline substituted thiophenes: preparation, electrochemical and spectroelectrochemical properties

AUTHOR(S): Buga, K.; Pokrop, R.; Majkowska, A.; Zagorska, M.; Planes, J.; Genoud, P.; Pron, A.

CORPORATE SOURCE: Faculty of Chemistry, Warsaw University of Technology, Warsaw, 00-664, Pol.

SOURCE: Journal of Materials Chemistry (2006), 16(22), 2150-2164

PUBLISHER: CODEN: JMACEP, ISSN: 0959-9428

DOCUMENT TYPE: Royal Society of Chemistry

LANGUAGE: Journal

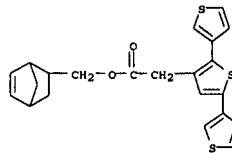
IT 901452-02-6DP, hydrolyzed, reaction products with aniline dimer and tetramer

RL: PRP (Properties); SPM (Synthetic preparation); PREP (Preparation) (copolymers of head to head coupled dialkylbithiophenes and oligoaniline substituted thiophenes)

RN 901452-02-6 HCPLUS

CN [2,2':5',2''-Terthiophene]-3'-acetic acid, 4,4'-dioctyl-, ethyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 901452-01-5
CMP C32 H46 O2 S3

CM 2

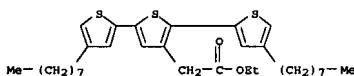
CRN 6143-29-9
CMP C9 H12 O2

RN 905276-48-4 HCPLUS
CN [3,2':5',3''-Terthiophene]-3'-acetic acid, bicyclo[2.2.1]hept-5-en-2-ylmethyl ester, polymer with bicyclo[2.2.1]hept-5-en-2-yl acetate and bicyclo[2.2.1]hept-5-en-2-ylmethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 905276-46-2
CMP C22 H20 O2 S3

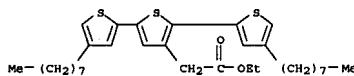
L16 ANSWER 4 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



IT 901452-02-6P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (copolymers of head to head coupled dialkylbithiophenes and oligoaniline substituted thiophenes)

RN 901452-02-6 HCAPLUS
 CN [2,2':5',2'']-Terthiophene]-3'-acetic acid, 4,4'-dioctyl-, ethyl ester, homopolymer (sci) (CA INDEX NAME)

CM 1

CRN 901452-01-5
 CMF C32 H46 O2 S3

REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 5 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ED Entered STN: 17 Mar 2006
 AB Ring opening metathesis polymerization of 5-norbornene-2-(methylene-3'-acetoxyethyl) (NA) resulted in random copolymers containing electroactive terthiophene pendant group. Homopolymer, PNMT, and copolymers, PN(M3T-r-NA), with 70 and 50 mol% NM3T compns. were prepared, and their electrochem. and chemical solid-state oxidative crosslinking (SOC) were studied. PNMT and P(NM3T-r-NA) behaved similarly during electrochem.

and chemical SOC, and the conjugated poly(terthiophene)s thus obtained showed similar conductivity and redox properties indicating no effect of conductive terthiophene composition on the electronic properties of random copolymers. This method is useful for precisely controlling the optical d. of the conjugated polymer.

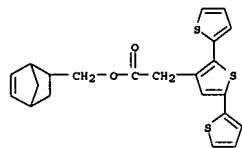
ACCESSION NUMBER: 2006-241612 HCAPLUS
 DOCUMENT NUMBER: 146-122540
 TITLE: Conducting polymers from random copolymers: solid-state crosslinking precursor approach
 AUTHOR(S): Kumar, Arvind; Jang, Sung-Yeon; Marquez, Manuel; Sotzing, Gregory A.
 CORPORATE SOURCE: Department of Chemistry and the Polymer Program, Institute of Materials Science, University of Connecticut, Storrs, CT 06269-3136, USA
 SOURCE: PMSE Preprints (2006), 94, 588-589
 CODEN: PMPRA9; ISSN: 1550-6703
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal; (computer optical disk)
 LANGUAGE: English
 IT 869677-18-9P 910476-71-8P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (crosslinked, conducting polymers prepared by solid-state crosslinking of terthiophene containing random copolymers)

RN 869677-18-9 HCAPLUS
 CN [2,2':5',2'']-Terthiophene]-3'-acetic acid, bicyclo[2.2.1]hept-5-en-2-ylmethyl ester, polymer with bicyclo[2.2.1]hept-5-en-2-ylmethyl acetate (CA INDEX NAME)

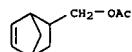
CM 1

CRN 869677-17-8
 CMF C22 H20 O2 S3

L16 ANSWER 5 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

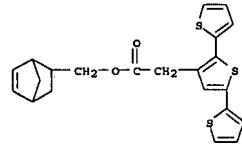


CM 2

CRN 10471-24-6
 CMF C10 H14 O2

RN 918476-71-8 HCAPLUS
 CN [2,2':5',2'']-Terthiophene]-3'-acetic acid, bicyclo[2.2.1]hept-5-en-2-ylmethyl ester, homopolymer (CA INDEX NAME)

CM 1

CRN 869677-17-8
 CMF C22 H20 O2 S3

REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 6 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ED Entered STN: 24 Nov 2005
 GI



AB The 5-membered heterocyclic compds. I (ring A indicates Q1, Q2, or Q3; R1 = (un)substituted aryl; R2 = substituted alkyl; R3 = (un)substituted aryl, (un)substituted heterocycl, (un)substituted alkyl; R4 = H, (un)substituted alkyl, when R1 = R3 = Ph, then R2 = carboxymethyl, ethoxycarbonylmethyl) or their pharmcol. acceptable salts are used for high-conductance Ca-sensitive K channel openers, useful for treatment of urinary frequency, urinary incontinence, cerebral infarction, subarachnoid hemorrhage, etc. Alternatively, the 5-membered heterocyclic compds. I (ring A indicates Q4, Q5, or Q6; R1 = (un)substituted thiienyl, aryl substituted with 2 halogen atoms; R2 = substituted alkyl; R3 = (un)substituted aryl, (un)substituted heterocycl, (un)substituted alkyl; R4 = H, (un)substituted alkyl, when R1 = 2-thienyl, then R2 = 2-thienyl) or their pharmcol. acceptable salts are used for high-conductance Ca-sensitive K channel openers. II (prepared in 5 steps from 3-bromo-2-formylfuran) inhibited K+-induced contraction of rabbit bladder samples with IC50 of 50.5 μ M.

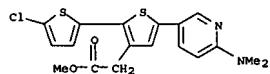
ACCESSION NUMBER: 2005-1240726 HCAPLUS
 DOCUMENT NUMBER: 143-472612
 TITLE: Use of five-membered heterocyclic compounds for high-conductance calcium-sensitive potassium channel openers
 INVENTOR(S): Hosaka, Toshihiro; Kusama, Mari; Oba, Kiyomi; Kono, Rikako; Konoumi, Shuntaro
 PATENT ASSIGNEE(S): Tanabe Seiyaku Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 43 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005325103	A	20051124	JP 2005-115251	20050413
PRIORITY APPLN. INFO.:			JP 2004-117430	A 20040413

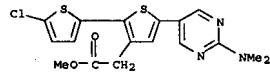
OTHER SOURCE(S): MARPAT 143:472612
 IT 683251-92-5P 683251-93-6P 683251-97-0P
 683251-98-1P
 RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USSE

07/08/2007, 10531330c.trn

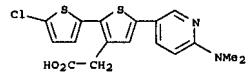
L16 ANSWER 6 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)
 (Uses)
 (prepn. of five-membered heterocyclic compds. for high-conductance
 calcium-sensitive potassium channel openers)
 RN 683251-92-5 HCAPLUS
 CN [2,2'-Bithiophene]-3-acetic acid, 5'-chloro-5-[6-(dimethylamino)-3-pyridinyl]-, methyl ester (9CI) (CA INDEX NAME)



RN 683251-93-6 HCAPLUS
 CN [2,2'-Bithiophene]-3-acetic acid, 5'-chloro-5-[2-(dimethylamino)-5-pyrimidinyl]-, methyl ester (9CI) (CA INDEX NAME)



RN 683251-97-0 HCAPLUS
 CN [2,2'-Bithiophene]-3-acetic acid, 5'-chloro-5-[6-(dimethylamino)-3-pyridinyl]-, sodium salt (9CI) (CA INDEX NAME)



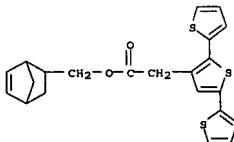
● Na

RN 683251-98-1 HCAPLUS
 CN [2,2'-Bithiophene]-3-acetic acid, 5'-chloro-5-[2-(dimethylamino)-5-pyrimidinyl]-, sodium salt (9CI) (CA INDEX NAME)

L16 ANSWER 7 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
 ED Entered STN: 06 Oct 2005
 AB Welded conducting polymer nanofibers with rapid electrochromic switching speeds have been prepared by electrospinning a soluble precursor polymer with pendant heterocycles into nanofibers which are subsequently crosslinked via solid-state oxidative crosslinking. The switching speeds between the oxidized and neutral states for these nanofiber mats is about twenty times faster than electrochem. prepared conducting polymer films.
 ACCESSION NUMBER: 2005:1069339 HCAPLUS
 DOCUMENT NUMBER: 143:486350
 TITLE: Welded electrochromic conductive polymer nanofibers by electrostatic spinning
 AUTHOR(S): Jang, Sung-Yeon; Beshadri, Venkataraman; Khil, Myung-Seob; Kumar, Arvind; Marquez, Manuel; Mather, Patrick T.; Sotzing, Gregory A.
 CORPORATE SOURCE: Polymer Program, Institute of Materials Science, University of Connecticut, Storrs, CT, 06269, USA
 SOURCE: Advanced Materials (Weinheim, Germany) (2005), 17(18), 2177-2180
 PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 IT 869677-18-9 869677-18-9D, oxidized
 RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
 (welded electrochromic conductive polymer nanofibers by electrostatic spinning)
 RN 869677-18-9 HCAPLUS
 CN [2,2':5',2'']-Terthiophene]-3'-acetic acid, bicyclo[2.2.1]hept-5-en-2-ylmethyl ester, polymer with bicyclo[2.2.1]hept-5-en-2-ylmethyl acetate (CA INDEX NAME)

CM 1

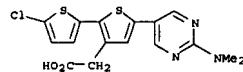
CRN 869677-17-8
 CMP C22 H20 O2 S3



CM 2

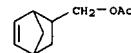
CRN 10471-24-6
 CMP C10 H14 O2

L16 ANSWER 7 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



● Na

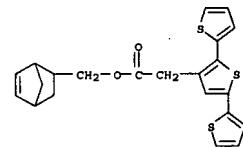
L16 ANSWER 7 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 869677-18-9 HCAPLUS
 CN [2,2':5',2'']-Terthiophene]-3'-acetic acid, bicyclo[2.2.1]hept-5-en-2-ylmethyl ester, polymer with bicyclo[2.2.1]hept-5-en-2-ylmethyl acetate (CA INDEX NAME)

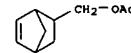
CM 1

CRN 869677-17-8
 CMP C22 H20 O2 S3



CM 2

CRN 10471-24-6
 CMP C10 H14 O2



REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE REFORMAT

07/08/2007, 10531330c.trn

L16 ANSWER 8 OF 37 HCPLUS COPYRIGHT 2007 ACS on STN

ED Entered STN: 12 Sep 2005

AB Terthiophenes functionalized with nitro, amino, cyano, carboxyl, decylicarboxylate, acetic and acrylic acid groups were synthesized using Suzuki coupling. The electrochem. polymerization and spectroscopic data of the films deposited from substituted terthiophene modified at the 3'-position with electron-donating (NH₂) and electron-withdrawing (NO₂, COOC₁₀H₂₁) groups have been investigated. In addition, effect of alkoxy groups on the electrochem. production of substituted poly(terthiophenes) and characterization of the resulting polymer film was studied.

ACCESSION NUMBER: 2005:988348 HCPLUS

DOCUMENT NUMBER: 143:440867

TITLE: Towards functionalized terthiophene-based polymers
AUTHOR(S): Gambhir, Sanjeev; Wagner, Klaudia; Officer, David L.
CORPORATE SOURCE: Nanomaterials Research Centre and the MacDiarmid Institute for Advanced Materials and Nanotechnology, Massey University, Palmerston North, 11-222, N. Z.

SOURCE: Synthetic Metals (2005), 154(1-3), 117-120
CODEN: SYMEDZ; ISSN: 0379-6779

PUBLISHER: Elsevier B.V.

DOCUMENT TYPE: Journal

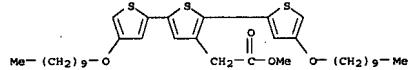
LANGUAGE: English

IT 868584-62-7P

RL: CPO (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
PROC (Process); RACT (Reactant or reagent)
(preparation and electrochem. polymerization of functionalized terthiophenes)

RN 868584-62-7 HCPLUS

CN [2,2':5',2''-Terthiophene]-3'-acetic acid, 4,4''-bis(decyloxy)-, methyl ester, homopolymer (9CI) (CA INDEX NAME)



IT 868584-70-7P

RL: PRP (Properties); SPN (Synthetic preparation); PRBP (Preparation)
(preparation and electrochem. polymerization of functionalized terthiophenes)

RN 868584-70-7 HCPLUS

CN [2,2':5',2''-Terthiophene]-3'-acetic acid, 4,4''-bis(decyloxy)-, methyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 868584-62-7

CMP C35 H52 O4 S3

L16 ANSWER 9 OF 37 HCPLUS COPYRIGHT 2007 ACS on STN

ED Entered STN: 09 Sep 2005

AB Nano-writing of intrinsically conducting polymers, e.g., 5-norbornene-endo-2,3-bis(methylene)-3'-(2,2':5',2''-terthiophene acetate)
(NAT) homopolymer, was achieved via electrochem. nanolithog. technique using tapping mode electrochem. atomic force microscopy. The electrochem.
nanolithog. method is based on solid-state oxidative crosslinking of a polymer layer deposited on a substrate in the presence of an electrolyte solution. Conducting polymer nanolines as small as 50 nm width were obtained
and the line width was controlled as a function of the writing speed and writing potential. Higher writing potential and slower writing speed produce wider conducting polymer nanolines due to enhanced propagation. No specific restriction in the choice of substrates and the ease of controlling feature size is expected to facilitate to fabrication of all plastic nano-electronic devices.

ACCESSION NUMBER: 2005:985681 HCPLUS

DOCUMENT NUMBER: 143:422859

TITLE: Writing of Conducting Polymers using Nanoelectrochemistry

AUTHOR(S): Jang, S.-Y.; Marquez, M.; Sotzing, G. A.
CORPORATE SOURCE: Polymer Program, Institute of Materials Science, Storrs, CT, 06269, USA

SOURCE: Synthetic Metals (2005), 152(1-3), 345-348
CODEN: SYMEDZ; ISSN: 0379-6779

PUBLISHER: Elsevier B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

IT 426015-39-6

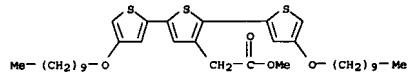
RL: CPO (Chemical process); DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(nanolines produced by nanoelectrochem. writing of polythiophene layer)

RN 426015-39-6 HCPLUS

CN [2,2':5',2''-Terthiophene]-3'-acetic acid, (1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-diybis(methylene) ester, rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

L16 ANSWER 8 OF 37 HCPLUS COPYRIGHT 2007 ACS on STN (Continued)



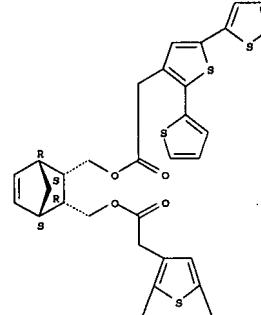
REFERENCE COUNT: THIS

21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR RECORD. ALL CITATIONS AVAILABLE IN THE RE

FORMAT

L16 ANSWER 9 OF 37 HCPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-A



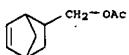
PAGE 2-A



REFERENCE COUNT: THIS

48 THERE ARE 48 CITED REFERENCES AVAILABLE FOR RECORD. ALL CITATIONS AVAILABLE IN THE RE

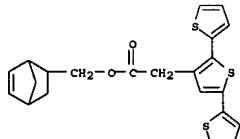
FORMAT



IT 869577-18-9
 RL: CPS (Chemical process); DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USSE (Uses)
 (precursor nanofibers; preparation of electrochromic conductive polythiophene nanofibers via electrospinning of solution processible precursors and oxidative crosslinking for device application)
 RN 869577-18-9 HCAPLUS
 CN [2'.2';5',2''-Terthiophene]-3'-acetic acid, bicyclo[2.2.1]hept-5-en-2-ylmethyl ester, polymer with bicyclo[2.2.1]hept-5-en-2-ylmethyl acetate [CA INDEX NAME]

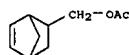
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CRN 869677-17-8
CMF C22 H20 O2 S3



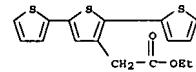
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CRN 10471-24-6
CMP C10 H14 02



REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE

L16 ANSWER 12 OF 37 HCPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 07 Feb 2005
AB The syntheses of 2 new terthiienyl monomers containing a 1,3-propanedione group and the derived polymers are described along with their electrochem. properties. The conjugation of the terthiienyl core with the enol form of the 1,3-propanedione is examined by spectroscopic and electrochem. means. Electronic interaction between the terthiophene moiety functionalized in the 5-position and the 1,3-propanedione is demonstrated. The polymerization conditions are studied with a view to optimizing the stability of the enol form of the 1,3-propanedione group.
ACCESSION NUMBER: 2005102704 HCPLUS
DOCUMENT NUMBER: 142:324896
TITLE: A new polymer based on a conjugated terthiophene- β -diketone ligand: electrochemical study and structural aspects
AUTHOR(S): Lopes Graca, J. P.; Chane-Ching, K. I.; Yassar, A.
CORPORATE SOURCE: ITODYS, associe au CNRS (UMR 7086), Universite Paris 7-Denis Diderot, Paris, 75005, Fr.
SOURCE: Electrochimica Acta (2005), 50 (7-8), 1475-1480
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
IT 163463-80-7
RL: RCT (Reactant), RACT (Reactant or reagent)
(reaction with ethylpentanone)
RN 163463-80-7 HCPLUS
CN [2,2'5',2'-'Terthiophene]-3'-acetic acid, ethyl ester (CA INDEX NAME)

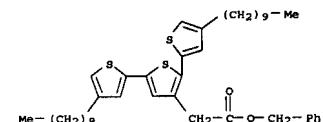


REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L16 ANSWER 13 OF 37 HCPLUS COPYRIGHT 2007 ACS on STN

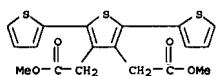
ED Entered STN: 23 Dec 2004

ACCESSION NUMBER: 2004:1122329 HCAPLUS
 DOCUMENT NUMBER: 142-246698
 TITLE: Atomic Force Microscopy Study of β -Substituted-T7 Oligothiophene Films on Mica: Mechanical Properties and Humidity-Dependent Phases
 AUTHOR(S): Chen, Jinyu; Ratera, Imre; Ogletree, D. F.; Salmeron, Miquel; Murphy, Amanda R.; Prechert, Jean M. J.
 CORPORATE SOURCE: Lawrence Berkeley National Laboratory, Berkeley, CA, 94720, USA
 SOURCE: Langmuir (2005), 21(3), 1080-1085
 CODEN: LANGDS; ISSN: 0743-7463
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 IT 844664-66-0P 844664-67-1P 844664-68-2P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (Intermediate, to synthesize β -substituted-T7 oligothiophene)
 RN 844664-66-0 HCAPLUS
 CN [2',5',2'']-Terthiophene-3'-acetic acid, 4,4''-didecyl-, phenylmethyl ester (9CI) (CA INDEX NAME)

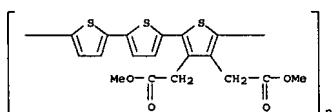


RN 844664-67-1 HCAPLUS
CN (2,2';5',2''-Terthiophene)-3'-acetic acid, 5,5''-dibromo-4,4''-didecyl-, phenylmethyl ester (9CI) (CA INDEX NAME)

L16 ANSWER 14 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)
 CRN 220653-51-0
 CMF C18 H16 O4 S3



RN 844642-27-9 HCAPLUS
 CN Poly[3,4-bis(2-methoxy-2-oxoethyl){2,2':5',2''-terthiophene]-5,5''-diyl] (9CI) (CA INDEX NAME)



REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE REFORMAT

L16 ANSWER 15 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
 ED Entered STN: 03 Dec 2004
 AB A method of manufacturing an intrinsically conductive polymer crosslinking at least a portion of an intrinsically conductive polymer precursor in the solid state, the swollen state, or combinations comprising at least one of the foregoing states, wherein the swollen state is characterized as being one wherein the intrinsically conductive polymer precursor increases in volume upon exposure to a solvent without completely dissolving in the solvent. In another embodiment, a method of manufacturing a pattern comprising casting a film of an intrinsically conductive polymer precursor on a substrate, and crosslinking at least a portion of the film by oxidation, wherein the crosslinking occurs in the solid state, the swollen state or combinations comprising at least one of the foregoing states.

ACCESSION NUMBER: 2004-1036748 HCAPLUS
 DOCUMENT NUMBER: 142-23947
 TITLE: Method of crosslinking intrinsically conductive polymers or intrinsically conductive polymer precursors and the articles obtained therefrom
 INVENTOR(S): Sotzing, Gregory A.
 PATENT ASSIGNEE(S): USA
 SOURCE: U.S. Pat. Appl. Publ., 54 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004242792	A1	20041202	US 2004-788234	20040226
WO 2005014693	A1	20050217	WO 2004-U85913	20040227
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN: CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GB: GH, GN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK: LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO: NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SV, TJ: TM, TN, TR, TT, TZ, UA, UG, UJ, UZ, VC, VN, YU, ZA, ZM, ZW, RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY: KG, KZ, MD, RU, TJ, TM, AT, BR, BG, CH, CY, CZ, DE, DK, ER, E9: FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR: BP, BJ, CP, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2006523262	T	20061012	JP 2006-508885	20040227
PRIORITY APPLN. INFO.: US 2003-451165P P 20030228				
WO 2004-U85913 W 20040227				

IT 426915-40-9
 RL: CP9 (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)
 (method of crosslinking intrinsically conductive polymers or intrinsically conductive polymer precursors and the articles obtained therefrom)

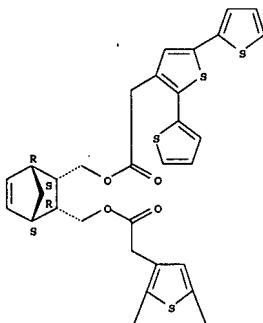
L16 ANSWER 15 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)
 RN 426815-40-9 HCAPLUS
 CN [2,2':5',2''-Terthiophene]-3'-acetic acid, (1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-diybis(methylene) ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 426815-39-6
 CMF C37 H30 O4 S6

Relative stereochemistry.

PAGE 1-A



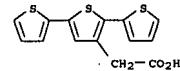
PAGE 2-A



IT 163463-81-8
 RL: RCT (Reactant), RACT (Reactant or reagent)
 (method of crosslinking intrinsically conductive polymers or intrinsically conductive polymer precursors and the articles obtained therefrom)

RN 163463-81-8 HCAPLUS
 CN [2,2':5',2''-Terthiophene]-3'-acetic acid (9CI) (CA INDEX NAME)

L16 ANSWER 15 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

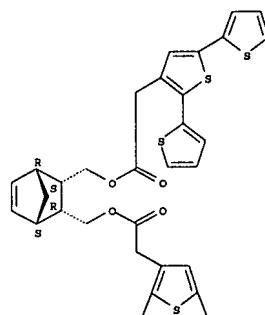


IT 426815-39-6P
 RL: IMP (Industrial manufacture), RCT (Reactant), PRSP (Preparation), RACT
 (Reactant or reagent)
 (monomer; method of crosslinking intrinsically conductive polymers or intrinsically conductive polymer precursors and the articles obtained therefrom)

RN 426815-39-6 HCAPLUS
 CN [2,2':5',2''-Terthiophene]-3'-acetic acid, (1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-diybis(methylene) ester, rel. - (9CI) (CA INDEX NAME)

Relative stereochemistry.

PAGE 1-A

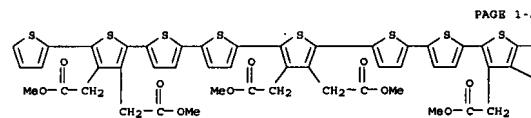


PAGE 2-A



L16 ANSWER 15 OF 37 HCAPLUS COPYRIGHT 2007 ACS on ST

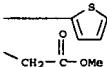
(Continued)



L16 ANSWER 16 OF 37 HCPLUS COPYRIGHT 2007 ACS on STN (Continued)

L16 ANSWER 17 OF 37 HCPLUS COPYRIGHT 2007 ACS on STN

PAGE 1-1



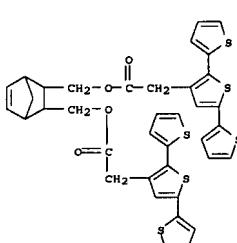
REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE REFORMAT.

AB Entered STN: 21 Jul 2004
AB Conductive polymer nanolines having widths ≥ 45 nm were obtained on glass using a novel scanning probe lithog. (SPL) technique at writing speeds of >5 μ m/s. Herein the authors' nanowriting is >1500 times faster than current SPL nanoscale writing of conductive polymers. The lack of a specific restriction on the choice of substrates and the ability to write on various substrates with different surface properties is a major advantage of this technique.

ability to write within a polymer matrix to provide a continuous film that is either 2-dimensional or 2.5-D provide tremendous potential for the authors' SPL technique in nanotech. and plastic electronics

applications.
 ACCESSION NUMBER: 2004:580240 HCPLUS
 DOCUMENT NUMBER: 141:269584
 TITLE: Rapid Direct Nanowriting of Conductive Polymer via
 Electrochemical Oxidative Nanolithography
 AUTHOR(S): Jang, Sung-Yeon; Marquez, Manuel; Sotzing, Gregory A.
 CORPORATE SOURCE: Polymer Program, Institute of Materials Science and
 Department of Chemistry, University of Connecticut,
 Storrs, CT, 06269, USA
 SOURCE: Journal of the American Chemical Society (2004),
 126(31), 9476-9477
 CODEN: JACSAT; ISBN: 0002-7863
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 IT 755041-13-5P
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material
 use); PRPB (Preparation); USES (Uses)
 (scanning probe lithog. of conductive polymer by oxidative
 polymerization)
 RN 755041-13-5 HCPLUS
 CN [2',2":2",2"]-Terthiophene]-3'-acetic acid, bicyclo[2.2.1]hept-5-ene-2,3-
 diylbis(methylene) ester, homopolymer (9Cl) (CA INDEX NAME)

CM 1



L16 ANSWER 17 OF 37 HCPLUS COPYRIGHT 2007 ACS on STN (Continued)
 REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

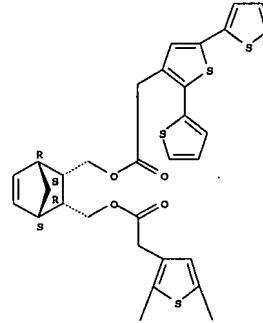
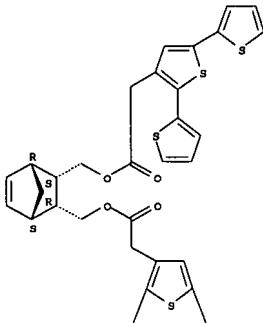
L16 ANSWER 18 OF 37 HCPLUS COPYRIGHT 2007 ACS on STN
 ED Entered STN: 14 May 2004
 AB A comparative study of solid-state oxidative crosslinking (SOC) of polynorbornylenes containing thiophene (N1T), bithiophene (N2T), and terthiophene pendants (N3T) probing polymerization ability, kinetics, and the electrochem. and optical properties of the resulting conductive polythiophene interpenetrating networks (IPNs) is reported. Generally, conductive IPNs prepared from these systems were found to exhibit the capability to shuttle ions with predominant anion transport during the doping/dedoping process and were found to have doping levels ranging from 17 to 36%. N2T was found to produce conductive IPNs via SOC with a lower energy π to π^* transition compared to those prepared from N3T.
 ACCESSION NUMBER: 2004:390389 HCPLUS
 DOCUMENT NUMBER: 141:107064
 TITLE: Poly[thiophene]s Prepared via Electrochemical Solid-State Oxidative Cross-Linking. A Comparative Study
 AUTHOR(S): Jang, Sung-Yeon; Sotzing, Gregory A.; Marquez, Manuel
 CORPORATE SOURCE: Department of Chemistry and the Polymer Program, Institute of Materials Science, University of Connecticut, Storrs, CT, 06269, USA
 SOURCE: Macromolecules (2004), 37(12), 4351-4359
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 IT 426815-40-9DP, crosslinked
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (electrochem. crosslinking of polynorbornylenes containing thiophene, bithiophene, and terthiophene pendants)
 RN 426815-40-9 HCPLUS
 CN [2,2':5',2''-Terthiophene]-3'-acetic acid, (1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-diylbis(methylene) ester, homopolymer (9CI) (CA INDEX NAME)
 CM 1
 CRN 426815-39-6
 CMF C37 H30 O4 S6
 Relative stereochemistry.

L16 ANSWER 18 OF 37 HCPLUS COPYRIGHT 2007 ACS on STN (Continued)

L16 ANSWER 18 OF 37 HCPLUS COPYRIGHT 2007 ACS on STN (Continued)

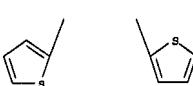
PAGE 1-A

PAGE 1-A



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PAGE 2-A



IT 426815-40-9 426815-41-0
 RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent) (prepolymer; electrochem. crosslinking of polynorbornylenes containing thiophene, bithiophene, and terthiophene pendants)
 RN 426815-40-9 HCPLUS
 CN [2,2':5',2''-Terthiophene]-3'-acetic acid, (1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-diylbis(methylene) ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 426815-39-6
 CMF C37 H30 O4 S6

Relative stereochemistry.

RN 426815-41-0 HCPLUS
 CN Poly([(4R,5S)-4,5-bis([(2,2':5',2''-terthiophen)-3'-ylacetyl]oxy)methyl]-1,3-cyclopentanediyl)-1,2-ethenediyl), rel- (9CI) (CA INDEX NAME)

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *



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REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

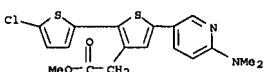
L16 ANSWER 19 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)
 ED Entered STN: 30 Apr 2004
 AB There are disclosed large conductance Ca-activated K channel openers (R1-R3-substituted 5-membered heterocycles (I, e.g. 5-(4-methylthiophenyl)-2-(5-chlorothien-2-yl)furan-3-ylacetic acid sodium salt (II)) containing any one of O, N or S, which ring may be N-substituted by R4; R1 is aryl, heterocyclic or heterocycle-substituted carbonyl; R2 is H, halogen, carboxy, amino, alkyl, alkoxy, carbonyl, alkenyl or cycloalkyl; R3 is aryl, heterocyclic or alkyl; and R4 is H or alkyl; each of substituents may be substituted; addnl. details are given in the claims) or a pharmaceutically acceptable salt thereof as an active ingredient. Although the methods of preparation are not claimed, example prepn. and/or characterization data for apprx. 60 examples of I are included. For example, II was prepared in 6 steps (28, 58, not given, 58, 71, not given % yields, resp.) starting with coupling of 3-formylfuran-2-ylboronic acid with 2-bromo-5-chlorothiophene to give 2-(5-chlorothien-2-yl)furan-3-carboxaldehyde, which was converted to Et 2-(5-chlorothien-2-yl)furan-3-ylacetate, then Et 2-(5-bromo-2-(5-chlorothien-2-yl)furan-3-ylacetate, then Et 2-(5-(4-methylthiophenyl)-2-(5-chlorothien-2-yl)furan-3-ylacetate using (4-methylthiophenyl)boronic acid, followed by base hydrolysis to the acid followed by conversion to the sodium salt. The relaxation effect on K-induced contraction of isolated rabbit urinary bladder and the inhibitory effect on the rhythmic bladder contractions induced by substance P in anesthetized rats were determined for 8 and 6 examples of I, resp. Expts. involving iberiotoxin, a selective large conductance calcium-activated K channel blocker, suggest that I have a detrusor relaxing activity through the large conductance calcium activated K channel.

ACCESSION NUMBER: 200435493 HCAPLUS
 DOCUMENT NUMBER: 140:375064
 TITLE: Preparation of 5-membered heterocycle-substituted acetic acid derivatives as large conductance calcium-activated K channel openers for pollakiuria or urinary incontinence
 INVENTOR(S): Hosaka, Toshihiro; Kusama, Mari; Ohba, Kiyomi; Kono, Rikako; Kohnomi, Shuntarou
 PATENT ASSIGNEE(S): Tanabe Seiyaku Co., Ltd., Japan
 SOURCE: PCT Int. Appl., '90 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004035570	A1	20040429	WO 2003-JP13194	20031015
W: AB, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE,				

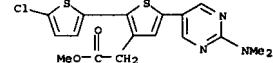
L16 ANSWER 19 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)
 GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MM, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CO, CI, CM, GA, GN, GQ, GW, MR, NE, SN, TD, TG
 CA 2501979 A1 20040429 CA 2003-2501979 20031015
 AU 2003272099 A1 20040504 AU 2003-272099 20031015
 EP 1556376 A1 20050727 EP 2003-754140 20031015
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, BE, HU, SK
 BR 2003015386 A 20050823 BR 2003-15386 20031015
 CN 1705659 A 20051207 CN 2003-80101508 20031015
 JP 200503111 T 20060126 JP 2005-501348 20031015
 NZ 539902 A 20070531 NZ 2003-539902 20031015
 MX 2005PA03972 A 20050622 MX 2005-PA972 20050414
 US 2006135597 A1 20060622 US 2005-531330 20050414
 NO 200502023 A 20050510 NO 2005-2023 20050426
 PRIORITY APPLN. INFO.: JP 2002-300860 A 20021015
 JP 2003-104260 A 20030408
 WO 2003-JP13194 W 20031015

OTHER SOURCE(S): MARPAT 140:375064
 IT 683251-92-5P, Methyl 5-(6-(dimethylamino)pyridin-3-yl)-2-(5-chlorothien-2-yl)thiophen-3-acetate 683251-93-6P, Methyl 5-(2-(dimethylamino)pyrimidin-5-yl)-2-(5-chlorothien-2-yl)thiophen-3-acetate
 RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
 (Drug candidate; preparation of 5-membered heterocycle-substituted acetic acid derivs. as large conductance calcium-activated K channel openers for pollakiuria or urinary incontinence)
 RN 683251-92-5 HCAPLUS
 CN [2,2'-Bithiophene]-3-acetic acid, 5'-chloro-5-[2-(dimethylamino)-3-pyridinyl]-, methyl ester (9CI) (CA INDEX NAME)

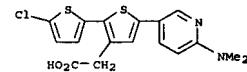


RN 683251-93-6 HCAPLUS
 CN [2,2'-Bithiophene]-3-acetic acid, 5'-chloro-5-[2-(dimethylamino)-3-pyridinyl]-, methyl ester (9CI) (CA INDEX NAME)

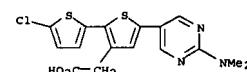
L16 ANSWER 19 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



IT 683251-97-0P, 5-[6-(Dimethylamino)pyridin-3-yl]-2-(5-chlorothien-2-yl)thiophen-3-acetic acid sodium salt 683251-98-1P, 5-[2-(Dimethylamino)pyrimidin-5-yl]-2-(5-chlorothien-2-yl)thiophen-3-acetic acid sodium salt
 RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (Drug candidate; preparation of 5-membered heterocycle-substituted acetic acid derivs. as large conductance calcium-activated K channel openers for pollakiuria or urinary incontinence)
 RN 683251-97-0 HCAPLUS
 CN [2,2'-Bithiophene]-3-acetic acid, 5'-chloro-5-[2-(dimethylamino)-3-pyridinyl]-, sodium salt (9CI) (CA INDEX NAME)



RN 683251-98-1 HCAPLUS
 CN [2,2'-Bithiophene]-3-acetic acid, 5'-chloro-5-[2-(dimethylamino)-3-pyridinyl]-, sodium salt (9CI) (CA INDEX NAME)



● Na
 REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

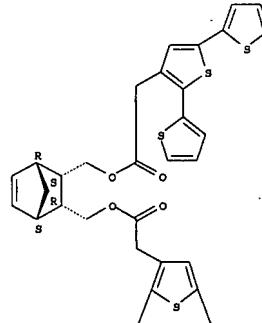
L16 ANSWER 20 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
 ED Entered STN: 22 Mar 2004
 AB We previously demonstrated a novel intrinsically conducting polymers (ICP) preparation method, solid-state oxidative crosslinking (SOC), which can be used to make ICPs from an insulating precursor polymer. The scheme for the preparation of poly(5-norbornane-endo-2,3-bis-methylene-3'-(2,2':5',2'')terthiophene acetate), PN3T, which is an insulating precursor and its conversion to an ICP, PN3T via SOC is described. Conversion of the insulating precursor polymer, PN3T, to the conducting polymer, PN3T, can be achieved via oxidation of pendent terthiophene units, either electrochem. (E-SOC) or chemical (C-SOC). The precursor polymer is processable to desired forms since it is soluble in many of the common organic solvents, and SOC is performed in solvents that only swell but do not dissolve the precursor polymer. Nano-writing of an intrinsically conducting polymer was achieved via a novel method that we have coined electrochem. oxidative nanolithog. (ECON). By using a conductive AFM tip as a working electrode, the solid-state oxidative crosslinking (SOC) of PN3T occurs in the nanometer scale regime. The size of ICP lines obtained were as small as 200 nm-wide, and the width of nano-lines could be controlled by writing speed. The writing speed of ECON is presently from 50 to 10,000 faster than other SPM-based conducting polymer nanolithog. techniques and there is no specific restriction of substrate.

ACCESSION NUMBER: 2004:234237 HCAPLUS
 DOCUMENT NUMBER: 141:164737
 TITLE: Direct writing of polyterthiophene nanowires using electrochemical oxidative nanolithography (ECON)
 AUTHOR(S): Jang, Sung-Yeon; Marquez, Manuel; Sotzing, Gregory A.
 CORPORATE SOURCE: Chemistry Department and Polymer Program, University of Connecticut, Storrs, CT, 06269, USA
 SOURCE: Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (2004), 45(1), 225-226
 CODEN: ACPPAY; ISSN: 0032-3934
 PUBLISHER: American Chemical Society, Division of Polymer Chemistry
 DOCUMENT TYPE: Journal; (computer optical disk)
 LANGUAGE: English
 IT 426815-40-9 426815-41-0
 RL: CPS (Chemical process); DEV (Device component use); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
 (nano-writing of intrinsically conducting polymer via electrochem. oxidative nanolithog. using solid state oxidative crosslinking)
 RN 426815-40-9 HCAPLUS
 CN [2,2':5',2'']-Terthiophene]-3'-acetic acid, (1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-diybis(methylene) ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

L16 ANSWER 20 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)
 CRN 426815-39-6
 CMP C37 H30 O4 S6
 Relative stereochemistry.

PAGE 1-A



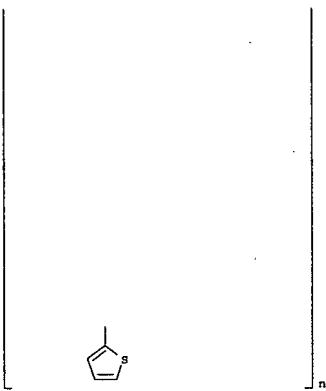
PAGE 2-A



RN 426815-41-0 HCAPLUS
 CN Poly([(4R,5S)-4,5-bis([(2,2':5',2'')-terthiophene]-3'-ylacetyl)oxy]methyl)-1,3-cyclopentanediyl]-1,2-ethenediyl), rel- (9CI) (CA INDEX NAME)

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

L16 ANSWER 20 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



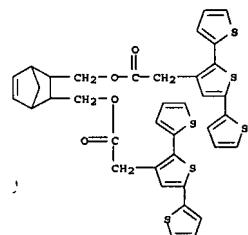
PAGE 2-A

REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

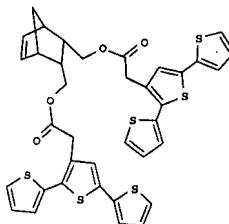
L16 ANSWER 21 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
 ED Entered STN: 24 Aug 2003
 AB Ion transport behavior of solid-state crosslinking of the precursor polymer, poly(1a), was studied using electrochem. quartz crystal microbalance (EQCM). We also compared the results of ion transport behavior in solid-state crosslinking to that of conventional electrochem. deposition from the monomer solution. The EQCM results of the solid-state crosslinkable precursor polymer, poly(1a) was different from that of electrodeposition from the monomer solution since no deposition occurs during solid-state crosslinking. Both conducting polymers show similar doping level (apprx.35%), and poly(1b) prepared by solid-state crosslinking shows

less anion dominant ion transport ratio (89%) than that of poly(1) (97%) prepared from monomer solution

ACCESSION NUMBER: 2003:658007 HCAPLUS
 DOCUMENT NUMBER: 140:17158
 TITLE: Ion transport studies on intrinsically conducting polymer prepared by solid-state crosslinking
 AUTHOR(S): Jang, Sung-Yeon; Sotzing, Gregory A.; Marquez, Manuel
 CORPORATE SOURCE: Polymer Program, Institute of Materials Science, University of Connecticut, Storrs, CT, 06269, USA
 SOURCE: Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (2003), 44(2), 360-361
 CODEN: ACPPAY; ISSN: 0032-3934
 PUBLISHER: American Chemical Society, Division of Polymer Chemistry
 DOCUMENT TYPE: Journal; (computer optical disk)
 LANGUAGE: English
 IT 631914-07-3P
 RL: PRP (Properties); SPA (Synthetic preparation); PREP (Preparation)
 (ion transport on intrinsically conducting polymer prepared by solid-state crosslinking)
 RN 631914-07-3 HCAPLUS
 CN [2,2':5',2'']-Terthiophene]-3'-acetic acid, bicyclo[2.2.1]hept-5-ene-2,3-diybis(methylene) ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

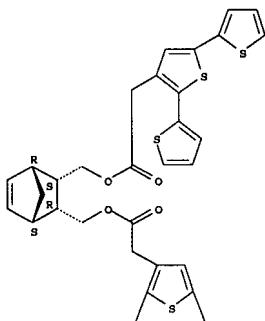


AB Insulating polymer backbones consisting of pendant oxidatively polymerizable units such as pyrrole, thiophene, etc., can be oxidatively crosslinked in a solid state. Swellability of the precursor polymers is a key factor in deciding the success of this method. Terthiophene derivative I was metathesis polymerized, coated on an electrode patterned surface, and oxidatively crosslinked electrochemically.

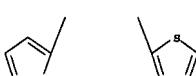
ACCESSION NUMBER: 2003-210744 HCPLUS
DOCUMENT NUMBER: 138-402620
TITLE: Oxidative solid-state crosslinking for patterning intrinsically conductive polymers
AUTHOR(S): Sotzing, Gregory A.; Jang, Sung-Yeon; Marquez, Manuel
CORPORATE SOURCE: Department of Chemistry and the Polymer Program, Institute of Materials Science, University of Connecticut, Storrs, CT, 06269, USA
SOURCE: Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (2003), 44(1), 82-83
PUBLISHER: American Chemical Society, Division of Polymer Chemistry
DOCUMENT TYPE: Journal, (computer optical disk)
LANGUAGE: English
IT 426815-39-6
RL: RCT (Reactant), TEM (Technical or engineered material use), RACT (Reactant or reagent), USES (Uses)
(oxidative crosslinking of, oxidative solid-state crosslinking for patterning intrinsically conductive polymers)
RN 426815-39-6 HCPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, (1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-diylbis(methylene) ester, rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

PAGE 1-A



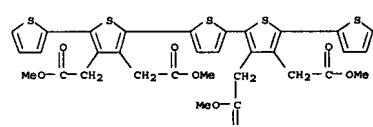
PAGE 2-A



REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

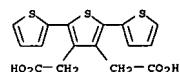
AB The aim of this contribution is to report on the recent study of differently packed oligomers based on mixed fluorene, thiophene derivs. and/or substituted thiophene oligomers, with particular reference on the influence of the overall solid-state aggregation onto the photoluminescence (PL). However, the preparation of polymers having the cited oligomers as monomeric unit, thus changing the aggregation, can enhance the emission property. The combined use of crystal structure anal., powder diffraction anal. and mol. mechanics/crystal packing calcs. allowed the authors to give a deeper insight between PL emission and solid-state aggregation, in its turn related to chemical structure. Other factors affecting the PL yield have to be taken into account to understand the behavior of mols. containing both polar and mobile substituents. Also, some indications confirming the conclusions reached on the previous topics will be presented from LED device measurements.

ACCESSION NUMBER: 2003-13551 HCPLUS
DOCUMENT NUMBER: 138-345688
TITLE: The role of solid-state aggregation on the emission in molecular crystals and in their devices
AUTHOR(S): Destri, S.; Pasini, M.; Giovannella, U.; Porzio, W.
CORPORATE SOURCE: Istituto per lo studio delle Macromolecole del CNR, Milan, 20133, Italy
SOURCE: Materials Science & Engineering, C: Biomimetic and Supramolecular Systems (2003), C23(1-2), 291-295
CODEN: MSCCEB; ISSN: 0928-4931
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
IT 220653-53-2
RL: DEV (Device component use), PRP (Properties), USES (Uses)
(role of solid-state aggregation on emission in mol. crystals and in their devices)
RN 220653-53-2 HCPLUS
CN [2,2':5',2''-5'',2'''-5''',2'''''-5''''-Quinethiophene]-3',3''',4',4'''-tetraacetic acid, tetramethyl ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

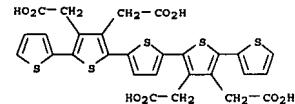
L16 ANSWER 24 OF 37 HCPLUS COPYRIGHT 2007 ACS on STN
 ED Entered STN: 20 Dec 2002
 AB The authors prepare and characterize new IR luminescent materials based on Er³⁺ which can be excited in the visible region thanks to oligothiophene ligands featuring the carboxylate functionality. Absorption spectra, IR photoluminescence spectra are presented.
 ACCESSION NUMBER: 2002:961968 HCPLUS
 DOCUMENT NUMBER: 138:114714
 TITLE: Novel Erbium-Substituted Oligothiophene Chelates for Infrared Emission
 AUTHOR(S): Destri, Silvia; Porzio, William; Meinardi, Francesco; Tubino, Riccardo; Salerno, Giuseppe
 CORPORATE SOURCE: Istituto per lo Studio delle Macromolecole, CNR, Milan, I-20133, Italy
 SOURCE: Macromolecules (2003), 36(2), 273-275
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 IT 488701-86-6 488701-87-7
 RL: PRP (Properties)
 (novel erbium-substituted oligothiophene chelates for IR emission)
 RN 488701-86-6 HCPLUS
 CN [2,2':5',2''-Terthiophene]-3',4'-diacetic acid, erbium(3+) sodium salt (2:1:1) (9CI) (CA INDEX NAME)



● 1/2 Br(III)

● 1/2 Na

RN 488701-87-7 HCPLUS
 CN [2,2':5',2''-5'',2''',5''',2''''-Quinquethiophene]-3',3''',4',4'''-tetraacetic acid, erbium(3+) sodium salt (2:1:5) (9CI) (CA INDEX NAME)

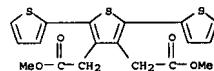


● 1/2 Br(III)

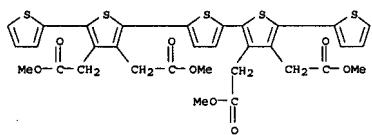
● 5/2 Na

REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 25 OF 37 HCPLUS COPYRIGHT 2007 ACS on STN
 ED Entered STN: 05 Nov 2002
 AB The regioregular polyalkylthiophene reported in this contribution was synthesized starting from a 3,4-bis(methoxycetyl)terthiophene and carefully characterized. Luminescence anal. gave, both in solution and in films, very appreciable quantum yield values and LED devices realized with Ca cathode provided a value of red electroluminescence comparable with those of regioregular poly(3-alkylthiophene)s in the monolayer active material architecture, while if a blend with poly-N-vinylcarbazole and 2-(4-t-butyl-phenyl)-5-(4-biphenyl)-3,4-oxadiazole constitutes the active layer a white emission is observed.
 ACCESSION NUMBER: 2002:838317 HCPLUS
 DOCUMENT NUMBER: 138:262345
 TITLE: A new soluble poly(bithiophene)-co-3,4-dimethoxycarbonylmethyl thiophene for LED
 AUTHOR(S): Pestri, Silvia; Giovanello, Umberto; Fazio, Alessia; Porzio, William; Gabriele, Bartolo; Zotti, Gianni
 CORPORATE SOURCE: Istituto per lo Studio delle Macromolecole, CNR, Milan, 20133, Italy
 SOURCE: Organic Electronics (2002), 3(3-4), 149-156
 PUBLISHER: Elsevier Science B.V.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 IT 220653-51-0P, 3',4'-Bis(methoxycetyl)-2,2':5',2''terthiophene
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (Bromination and Stille coupling with (tributylstannyli)thiophene)
 RN 220653-51-0 HCPLUS
 CN [2,2':5',2''-Terthiophene]-3',4'-diacetic acid, dimethyl ester (9CI) (CA INDEX NAME)



IT 220653-53-2P, 3',4',3''',4'''-Tetrakis(methoxycetyl)-2,2':5',2''-5'',2''',5''',2''''-quinquthiophene
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (Bromination and Stille coupling with (tributylstannyli)thiophene)
 RN 220653-53-2 HCPLUS
 CN [2,2':5',2''-5'',2''':5''',2''''-Quinquethiophene]-3',3''',4',4'''-tetraacetic acid, tetramethyl ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE REFORMAT

ED Entered STN: 09 Aug 2002
 AB herein we describe the preparation of intrinsically conducting poly(terthiophene).
 via two different routes: solution- and solid-state crosslinking of terthiophene moieties. The solution-state crosslinking of terthiophene moieties was performed using conventional electrochem. polymerization in which insol. cross-linked polymer was precipitated onto the electrode from electrolyte

solution of the monomer by oxidative coupling of terthiophene units in the monomer.

5-norbornene-endo-2,3-bis(methylene-3'-(2,2':5',2'')-terthiophene acetate). In the alternative route, a precursor polymer, poly(norbornylene), prepared from the ring-opening metathesis polymerization (ROMP)

of 5-norbornene-endo-2,3-bis(methylene-3'-(2,2':5',2'')-terthiophene acetate), was coated on either a conducting or insulating surface, and then the terthiophene units were cross-linked to form intrinsically

conductive polymer (ICP) via electrochem. and chemical oxidation, resp.

More highly conjugated ICP was observed by performing oxidative crosslinking of the polymer in the solid state, in contrast to the cross-linked intrinsically conducting polymer prepared via electrochem. polymerization of 5-norbornene-endo-2,3-bis(methylene-3'-(2,2':5',2'')-terthiophene acetate) from solution. Elec. conductivities for the polymers obtained via solid-state

chemical oxidative crosslinking were on the order of 1×10^{-3} S/cm.

ACCESSION NUMBER: 2002-590573 HCAPLUS

DOCUMENT NUMBER: 137-233030

TITLE: Intrinsically Conducting Polymer Networks of Poly(terthiophene) via Solid-State Oxidative Cross-Linking of a Poly(norbornylene) Containing Terthiophene Moieties

AUTHOR(S): Jang, Sung-Yeon; Sotzing, Gregory A.; Marquez, Manuel
 CORPORATE SOURCE: Department of Chemistry, Polymer Program Institute of Materials Science, University of Connecticut, Storrs, CT, 06269, USA

SOURCE: Macromolecules (2002), 35(19), 7293-7300

CODEN: MAMOBX; ISBN: 0024-9297

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

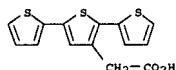
LANGUAGE: English

IT 163463-81-8

RL: RCT (Reactant); RACT (Reactant or reagent)
 (chlorination and reaction with norbornenedimethanol)

RN 163463-81-8 HCAPLUS

CN [2,2':5',2'']-Terthiophene]-3'-acetic acid (9CI) (CA INDEX NAME)



IT 426815-40-9P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and characterization of)

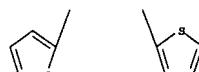
RN 426815-40-9 HCAPLUS

CN [2,2':5',2'']-Terthiophene]-3'-acetic acid, (1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-diylbis(methylene) ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 426815-39-6
 CMF C37 H30 O4 S6

Relative stereochemistry.



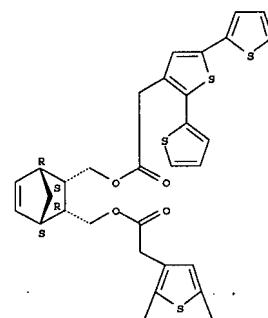
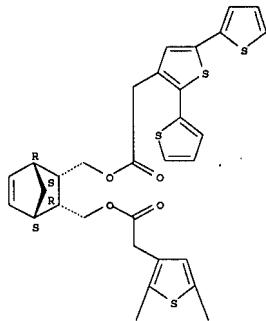
IT 426815-39-6P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and polymerization of)

RN 426815-39-6 HCAPLUS

CN [2,2':5',2'']-Terthiophene]-3'-acetic acid, (1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-diylbis(methylene) ester, rel- (9CI) (CA INDEX NAME)

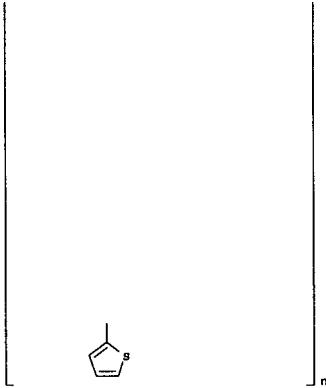
Relative stereochemistry.



IT 426815-41-0P

L16 ANSWER 26 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process) (prep. by ring-opening metathesis polymn. and electrochem. crosslinking of)
 RN 426815-41-0 HCAPLUS
 CN
 Poly([(4R,5S)-4,5-bis([(2,2':5',2''-terthiophen)-3'-ylacetyl]oxy)methyl]-1,3-cyclopantanediyl)-1,2-ethenediyl), rel- (9CI) (CA INDEX NAME)

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *



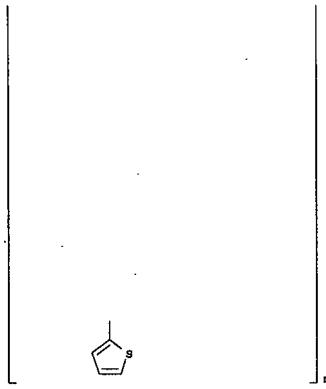
PAGE 2-A

REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 27 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)
 ED Entered STN: 29 Jul 2002
 AB We have utilized a poly(norbornylene) functionalized with pendant terthiophene moieties to achieve ICP crosslink units via solid-state electrochem. coupling. With this system, we are able to process thin films of polynorbornylene on numerous conducting and insulating substrates since this precursor to an ICP readily dissolves in common solvents such as methylene chloride, chloroform, toluene, etc. The precursor polymer does not dissolve, but only swells, in acetonitrile, and therefore solid-state preparation of ICP via oxidative coupling of pendant terthiophene units using either electrochem. oxidation and/or chemical oxidants is accomplished. Utilizing both the solution-processability of the precursor poly(norbornylene) and solid-state ICP crosslinking, facile patterning of ICP on numerous substrates was achieved. For example, an inter-digited pattern of 10 μ dimensions was burnt into the poly(norbornylene) precursor film.
 ACCESSION NUMBER: 2002559991 HCAPLUS
 DOCUMENT NUMBER: 137:233028
 TITLE: Oxidative solid-state crosslinking of polymer precursors to pattern intrinsically conducting polymers
 AUTHOR(S): Sotzing, Gregory A.; Jang, Sung-Yeon; Marquez, Manuel
 CORPORATE SOURCE: Department of Chemistry and the Polymer Program, Institute of Materials Science, University of Connecticut, Storrs, CT, 06269, USA
 SOURCE: PMSE Preprints (2002), 87, 371-372
 CODEN: PPMRA9; ISSN: 1550-6703
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal; (computer optical disk)
 LANGUAGE: English
 IT 426815-41-0P
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process) (preparation by ring-opening metathesis polymerization and electrochem. crosslinking of)
 RN 426815-41-0 HCAPLUS
 CN
 Poly([(4R,5S)-4,5-bis([(2,2':5',2''-terthiophen)-3'-ylacetyl]oxy)methyl]-1,3-cyclopantanediyl)-1,2-ethenediyl), rel- (9CI) (CA INDEX NAME)

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

L16 ANSWER 27 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



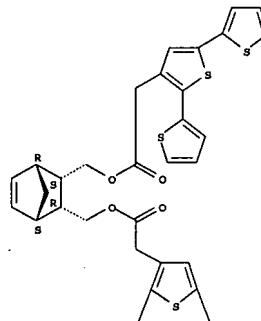
PAGE 2-A

IT 426815-40-9P
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (preparation by ring-opening metathesis polymerization of bis(terthiophenyl)norbornylene monomer followed by electrochem. crosslinking)
 RN 426815-40-9 HCAPLUS
 CN [2,2':5',2''-Terthiophene]-3'-acetic acid, (1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-diybis(methylene) ester, homopolymer (9CI) (CA INDEX NAME)
 CM 1
 CRN 426815-39-6
 CMF C37 H30 O4 S6

Relative stereochemistry.

L16 ANSWER 27 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-A

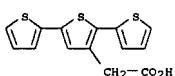


PAGE 2-A

REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

07/08/2007,10531330c.trn

L16 ANSWER 28 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 27 Mar 2002
AB A monomer containing norbornene with 2 terthiophene units was prepared by treating 2,5-bis(2-thienyl)-3-thiophene acetic acid with oxalyli chloride followed by treatment with 5-norbornene-2-endo,3-endo-dimethanol. Ring-opening metathesis polymerization and electrochem. crosslinking of the polymer were carried out. The first oxidative process for the terthiophene occurred at the same potential as that for the polymerization of monomer from solution, whereas, the second oxidative process occurred at approx. 0.1 V higher.
ACCESSION NUMBER: 2002:332233 HCAPLUS
DOCUMENT NUMBER: 136:386520
TITLE: Poly(terthiophene) networks via electrochemical crosslinking of terthiophene derivatized norbornylene monomers and polymers
AUTHOR(S): Jang, Sung-Yeon; Clark, Maxwell; Sotzing, Gregory A.
CORPORATE SOURCE: Department of Chemistry and the Polymer Program, Institute of Materials Science, University of Connecticut, Storrs, CT 06269, USA
SOURCE: PMSE Preprints (2002) 86, 205-206
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal, (computer optical disk)
LANGUAGE: English
IT 163463-81-8
RL: RCT (Reactant), RACT (Reactant or reagent)
(chlorination and reaction with norbornenedimethanol)
RN 163463-81-8 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid (9CI) (CA INDEX NAME)

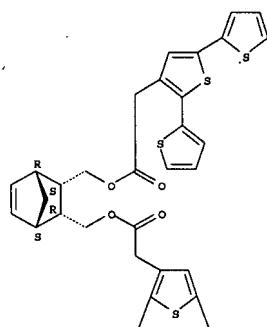


IT 426815-40-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and characterization of)
RN 426815-40-9 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, (1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-diybis(methylene) ester, homopolymer (9CI) (CA INDEX NAME)
CM 1
CRN 426815-39-6
CMP C37 H30 O4 S6

Relative stereochemistry.

L16 ANSWER 28 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-A



IT 426815-39-6P
RL: RCT (Reactant), SPN (Synthetic preparation); PRBP (Preparation); RACT (Reactant or reagent)
(preparation and polymerization of)
RN 426815-39-6 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, (1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-diybis(methylene) ester, rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

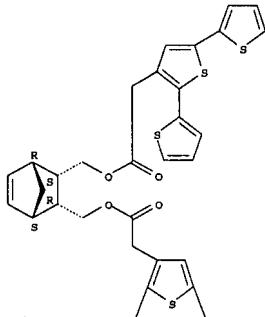
PAGE 2-A



L16 ANSWER 28 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

L16 ANSWER 28 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

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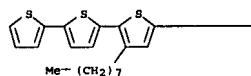
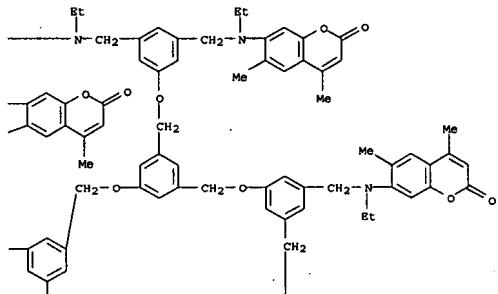
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FORMAT

8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE

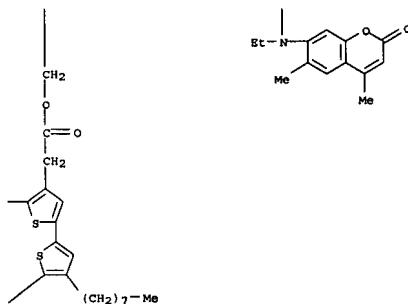
IT 426815-41-0P
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
(preparation by ring-opening metathesis polymerization and electrochem.
crosslinking of)
RN 426815-41-0 HCAPLUS
CN Poly[[(4R,5S)-4,5-bis[[(2,2':5',2''-terthiophen)-3'-ylacetyl]oxy]methyl]-1,3-cyclopentanediyl], rel- (9CI) (CA INDEX NAME)

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

PAGE 1-B



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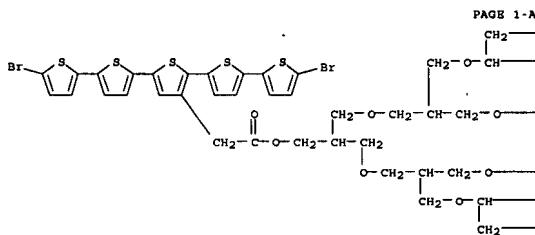
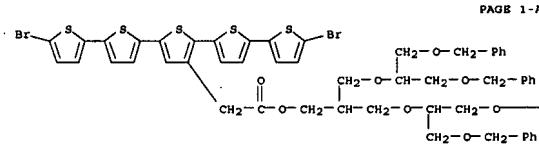
L16 ANSWER 30 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

AB Entered STN: 09 Jul 2000
 AB The redox states of a series of well-defined hybrid dendrimers based on oligothiophene cores and poly(benzyl ether) dendrons have been studied using cyclic voltammetry and variable-temperature UV/visible/near-IR spectroscopy. The oxidation potentials and the electronic transitions of the neutral, singly oxidized, and doubly oxidized states of these novel hybrid materials have been determined as a function of oligothiophene conjugation length varying between 4 and 17 repeat units. The attachment of poly(benzyl ether) dendritic wedges at the termini of these lengthy oligothiophenes considerably enhances their solubility, thus enabling the first detailed investigation of the electronic structure of oligothiophenes having 11 and 17 repeat units with minimal β -substitution. In the case of the undecamer and heptadecamer, we find that the dicationic state consists of two individual polaronic, rather than a single bipolaron. The effect of the dendritic poly(benzyl ether) solubilizers on the properties of the redox states varies with the oligothiophene length and dendron size. More specifically, we observe a kinetic limit to the electrochemical oxidation of the oligothiophene core when the dendron is large compared

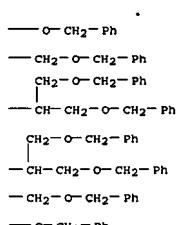
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REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE REFORMAT.

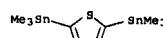
L16 ANSWER 31 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

L16 ANSWER 31 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)
CMF C60 H56 Br2 O8 S5

PAGE 1-B



—CH2—Ph

CM 2
CRN 86134-26-1
CMF C10 H20 S Sn2

RN 274902-45-3 HCAPLUS
CN [2,2';5',2'':5'':2''';5''';2''''-Quinque thiophene]-3''-acetic acid,
5,5''''-dibromo-
3-[3-[2-(phenylmethoxy)-1-[(phenylmethoxy)methyl]ethoxy]-
2-[(2-(phenylmethoxy)-1-[(phenylmethoxy)methyl]ethoxy)methyl]propoxy]-
[3-[2-(phenylmethoxy)-1-[(phenylmethoxy)methyl]ethoxy]-2-[(2-
phenylmethoxy)-1-[(phenylmethoxy)methyl]ethoxy]methyl]propoxy]methyl]prop
yl ester, polymer with 2,5-thiophenediylbis(trimethylstannane) (9CI) (CA INDEX
NAME)

CM 1

CRN 274902-41-9
CMF C102 H108 Br2 O16 S5

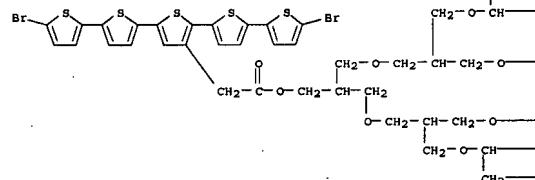
IT 274902-44-2P 274902-45-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and characterization of polythiophene functionalized
exclusively with aliphatic ether convergent dendrons)
RN 274902-44-2 HCAPLUS
CN [2,2';5',2'':5'':2''';5''';2''''-Quinque thiophene]-3''-acetic acid,
5,5''''-dibromo-
3-[2-(phenylmethoxy)-1-[(phenylmethoxy)methyl]ethoxy]-2-
[(2-(phenylmethoxy)-1-[(phenylmethoxy)methyl]ethoxy)methyl]propyl ester,
polymer with 2,5-thiophenediylbis(trimethylstannane) (9CI) (CA INDEX
NAME)

CM 1

CRN 256662-53-0

L16 ANSWER 31 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-A



L16 ANSWER 32 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ED Entered STN: 14 Apr 2000

AB Novel chromophore-labeled dendrimers with penta- and heptathiophene cores and coumarin-2 chromophores at their periphery have been shown to be very efficient light-harvesting systems. Excitation of the peripheral coumarin-2 chromophores results in energy transfer to the oligothiophene cores as a result of the large overlap between the donor emission

spectrum and the acceptor absorption spectrum, as well as the large transition dipole moments of the oligothiophenes. Although these core dyes have low fluorescence quantum yields, their emission intensity is significantly enhanced by the ability of the large light-harvesting dendron to funnel absorbed energy to the core. Because of the large Stokes shift of the oligothiophenes, the emission spectrum of the dendrimers was red-shifted by 200 nm from the excitation wavelength. Oligothiophene orientation-end functionalization vs. central functionalization did not have a significant effect on energy-transfer efficiency.

ACCESSION NUMBER: 2000:238642 HCAPLUS
DOCUMENT NUMBER: 133:17882
TITLE: Synthesis and Steady-State Photophysical Properties

of Dye-Labeled Dendrimers Having Novel Oligothiophene Cores: A Comparative Study

AUTHOR(S): Adronov, Alex; Melenfant, Patrick R. L.; Frechet, Jean M. J.

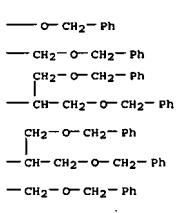
CORPORATE SOURCE: Department of Chemistry, University of California, Berkeley, CA, 94720-1460, USA
SOURCE: Chemistry of Materials (2000), 12(5), 1463-1472

PUBLISHER: CODEN: CMATEX; ISSN: 0897-4756
American Chemical Society

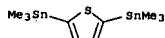
DOCUMENT TYPE: Journal
LANGUAGE: English

IT 272115-60-3P
RL: PRP (Properties), RCT (Reactant), SPN (Synthetic preparation), PREP (Preparation), RACT (Reactant or reagent)
(intermediate, synthesis and steady-state photophysical properties of dye-labeled dendrimers having novel oligothiophene cores)

RN 272115-60-3 HCAPLUS
CN [2,2';5',2'':5'':2''';5''';2''''-Septithiophene]-3''-acetic acid, 3'',4''-dioctyl-, phenylmethyl ester (9CI) (CA INDEX NAME)

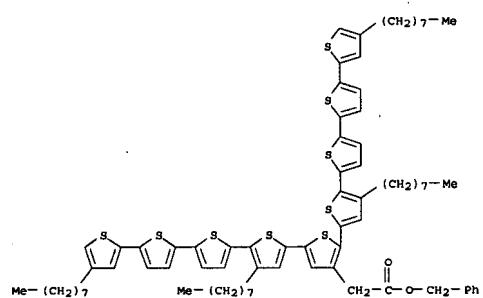
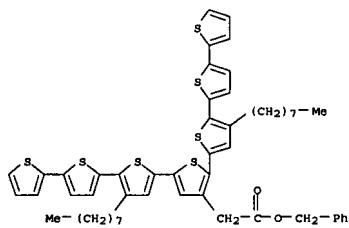


CM 2

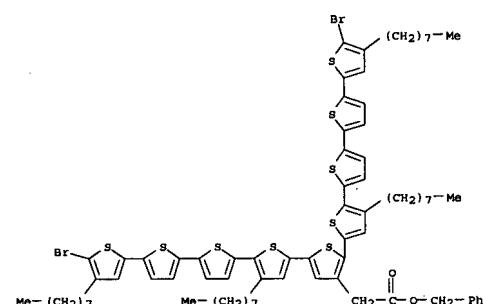
CRN 86134-26-1
CMF C10 H20 S Sn2

REFERENCE COUNT: 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
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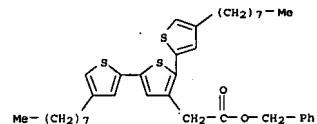
L16 ANSWER 32 OF 37 HCPLUS COPYRIGHT 2007 ACS on STN (Continued)



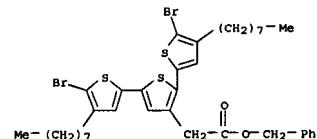
L16 ANSWER 32 OF 37 HCPLUS COPYRIGHT 2007 ACS on STN (Continued)



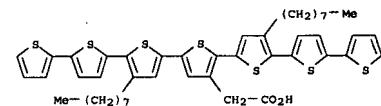
L16 ANSWER 32 OF 37 HCAPLUS COPYRIGHT 2007 ACS ON STN (Continued)
RN 272115-58-9 HCAPLUS
CN [2',2'',5',2'''-Tertiophiophenel-3'-acetic acid, 4,4'''-dioctyl-, phenylmethyl] ester (9CI) (CA INDEX NAME)



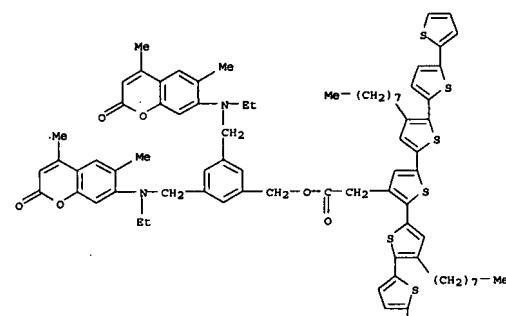
RN 272115-59-0 HCAPLUS
CN [2,2';5',2''-Terthiophene]-3'-acetic acid, 5,5''-dibromo-4,4''-diethyl-
phenylmethyl ester (9CI) (CA INDEX NAME)



L16 ANSWER 32 OF 37 HCPLUS COPYRIGHT 2007 ACS on STN (Continued)
Septithiophene]-3''''-acetic acid, 3'',4''''-dioctyl- (9CI) (CA INDEX
NAME)



PAGE 1-2



07/08/2007, 10531330c.trn

L16 ANSWER 32 OF 37 HCPLUS COPYRIGHT 2007 ACS on STN (Continued)

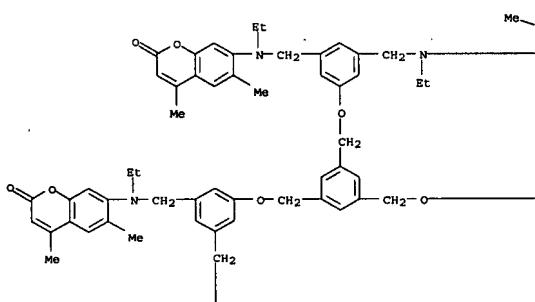
L16 ANSWER 32 OF 37 HCPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 2-A



PAGE 1-B

PAGE 1-A



PAGE 2-A

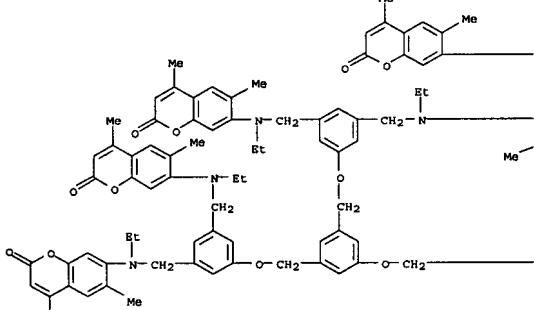
RN 272115-69-2 HCAPLUS

PAGE 2-B

L16 ANSWER 32 OF 37 HCPLUS COPYRIGHT 2007 ACS on STN (Continued)

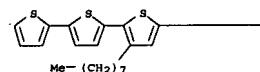
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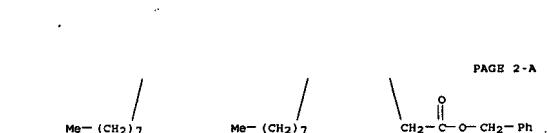
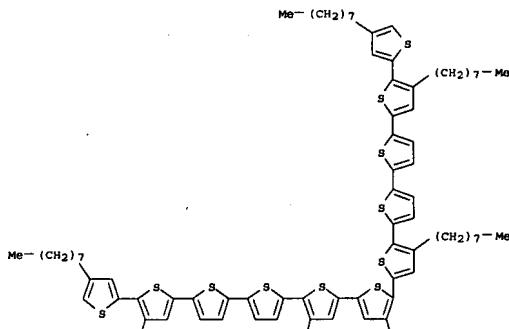
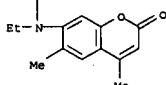
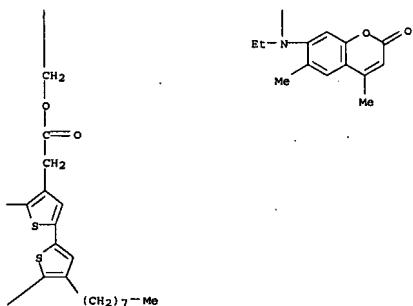
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PAGE 2-5

1

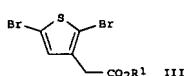
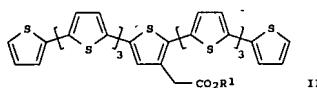
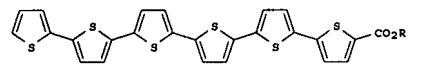




IT 272115-63-6P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (synthesis and steady-state photophys. properties of dye-labeled
 dendrimers having novel oligothiophene cores)
 RN 272115-63-6 HCPLUS
 CN [2,2':5',2'';5'',2'';5'';2'';5'',2'';5'',2'';5'',2'';
 5'',2'',2'';5'',2'';5'',2'';5'',2'';5'',2''-
 Undecithiophenel-3''-acetic acid,
 3',3'',4',4'',4'',4''-
 hexaoctyl-, phenylmethyl ester (9CI) (CA INDEX NAME)

REFERENCE COUNT:
 THIS

70 THERE ARE 70 CITED REFERENCES AVAILABLE FOR
 RECORD. ALL CITATIONS AVAILABLE IN THE RE
 FORMAT

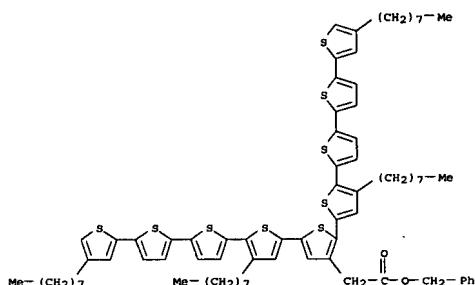


AB oligothiophenes such as I ($R = CH_2CH(CH_2OCH_2CH(CH_2OCH_2CH(CH_2OBn)_2)_2)_2$) and II ($R = CH_2CH(CH_2OCH_2CH(CH_2OBn)_2)_2$) with pendant dendrimers are prepared by bromination and coupling procedures analogous to unsubstituted oligothiophenes while exhibiting enhanced solubility relative to unsubstituted thiophenes. E.g., coupling of the third-generation dendrimer with 2,2'-bithiophene-5-carbonyl chloride give a dendrimeric ester which was regioselectively brominated with NBS in DMF in 92% yield, coupled with 2,2'-bithien-5-yltrimethylstannane in the presence of a palladium catalyst in 66% yield, and the product subjected to a second bromination-coupling cycle to give II in 5 steps. E.g., dibrominated thiophene III ($R = CH_2CH(CH_2OCH_2CH(CH_2OBn)_2)_2$) was coupled with 2,2'-bithien-5-yltrimethylstannane in the presence of a palladium catalyst in 89% yield followed by bromination and a second coupling with 2,2'-bithien-5-yltrimethylstannane to give II in 3 steps. The stability of the dendrimers to bromination conditions allows for facile extension of oligothiophenes and easier purification of the resulting oligothiophenes. Oligothiophenes such as II with the dendrimer near the middle of the oligothiophene chain show greater oxidative stability than terminally substituted dendrimeric oligothiophenes such as I. The monodendrimer-substituted oligothiophenes show longer wavelength absorptions than soluble dendrimers substituted with multiple alkyl groups, indicating that the monosubstituted oligothiophenes have a conformation with more extended conjugation than multiply-substituted oligothiophenes.

ACCESSION NUMBER: 1999:757906 HCPLUS
 DOCUMENT NUMBER: 132:137231
 TITLE: Dendrimer-Supported Oligothiophene Synthesis:
 Aliphatic Ether Dendrimers in the Preparation of
 Oligothiophenes with Minimal Substitution
 AUTHOR(S): Malenfant, Patrick R. L.; Jayaraman, Manikandan;
 Frechet, Jean M. J.
 CORPORATE SOURCE: Department of Chemistry, University of California,
 Berkeley, CA, 94720-1460, USA
 SOURCE: Chemistry of Materials (1999), 11(12), 3420-3422
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CABREACT 132:137231

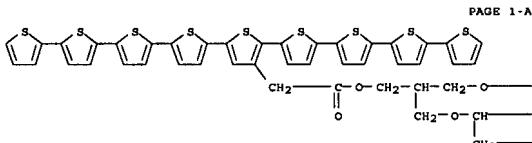
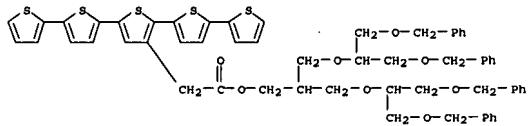
IT 256662-55-2
 RL: PRP (Properties)
 (alkyl-substituted oligothiophene UV absorption and the comparison
 with monodendrimeric substituted oligothiophene derivative UV absorption)

RN 256662-55-2 HCPLUS
 CN [2,2':5',2'';5'',2'';5'',2'';5'',2'';5'',2'';
 5'',2'',2''-Novithiophene]-3''-acetic acid,
 3',3'',4,4'',4'',4''-tetraoctyl-, phenylmethyl ester (9CI) (CA INDEX
 NAME)



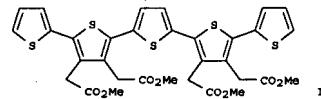
IT 256662-52-9P
 RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP
 (Preparation); RACT (Reactant or reagent)
 (preparation of dendrimer-substituted oligothiophenes)
 RN 256662-52-9 HCPLUS
 CN [2,2':5',2'';5'',2'';5'',2'';5'',2''-Quinquethiophene]-3''-acetic acid,
 3-[2-(phenylmethoxy)-1-[(phenylmethoxy)methyl]ethoxy]-2-[2-(
 phenylmethoxy)-1-[(phenylmethoxy)methyl]ethoxy]methylpropyl ester (9CI)

L16 ANSWER 33 OF 37 HCPLUS COPYRIGHT 2007 ACS on STN (Continued)
(CA INDEX NAME)



IT 256662-53-0P
RL: RCT (Reactant), SPN (Synthetic preparation), PREP (Preparation), RACT

L16 ANSWER 34 OF 37 HCPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 26 Jan 1999
GI



AB The synthesis of 3,4-bis[(methoxycarbonyl)methyl]thiophene and bis-, ter- and pentathiophenes with alternating 3,4-bis(methoxycarbonyl)methyl substituted rings, e.g. 1, is reported. These new thiophene derive. are possible precursors for the preparation of new conducting polymers useful as materials for electronics.

ACCESSION NUMBER: 1999:50477 HCAPLUS

DOCUMENT NUMBER: 130:182314

TITLE: Synthesis of 3,4-bis[(methoxycarbonyl)methyl]thiophene and bis-, ter- and pentathiophenes with alternating 3,4-bis(methoxycarbonyl)methyl substituted rings

AUTHOR(S): Fazio, Alessio; Gabriele, Bartolo; Salerno, Giuseppe; Destri, Silvia

CORPORATE SOURCE: Dipartimento di Chimica, Universita della Calabria, Cosenza, 87030, Italy

SOURCE: Tetrahedron (1999), 55(2), 485-502

CODEN: TETRAB; ISSN: 0040-4020

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

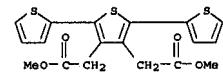
LANGUAGE: English

IT 220653-51-0P 220653-53-2P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of bis[(methoxycarbonyl)methyl]thiophene and bis-, ter- and pentathiophenes with alternating bis[(methoxycarbonyl)methyl] substituted rings)

RN 220653-51-0 HCAPLUS

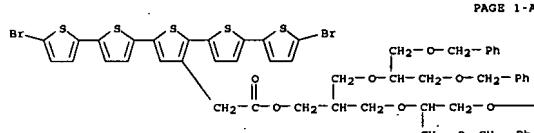
CN [2',2':5',2'-Terthiophene]-3',4'-diacetic acid, dimethyl ester (9CI) (CA INDEX NAME)



RN 220653-53-2 HCPLUS
CN [2',2':5',2':5'',2'',2''':5''',2''':Quinquethiophene]-3',3'',4'',4'''-
tetracetic acid, tetramethyl ester (9CI) (CA INDEX NAMB)

L16 ANSWER 33 OF 37 HCPLUS COPYRIGHT 2007 ACS on STN (Continued)
(Reactant or reagent)

(reactant of Reagent)
 (prep. of dendrimer-substituted oligothiophenes)
 RN 256662-53-0 HCAPLUS
 CN [2-2',5',2''5'',2'''5'''-quinquethiophene]-3'''-acetic acid,
 5,5'''-dibromo-,
 3-[2-(phenylmethoxy)-1-[(phenylmethoxy)methyl]ethoxy]-2-
 [(2-(phenylmethoxy)-1-[(phenylmethoxy)methyl]ethoxy)methyl]propyl est
 (9CI) (CA INDEX NAMB)

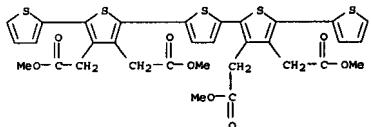


PAGE 1-B

$$-\text{CH}_2-\text{Ph}$$

REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE REFORMAT.

L16 ANSWER 34 OF 37 HCPLUS COPYRIGHT 2007 ACS on STN (Continued)



REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE REFORMAT

L16 ANSWER 35 OF 37 HCPLUS COPYRIGHT 2007 ACS on STN

ED Entered STN: 09 Apr 1996

AB Novel activated ester-functionalized oligothiophenes were obtained by electropolymer, using potentiodynamic cyclic voltammetry. The resulting conducting polymers could be easily surface modified, e.g. by anchoring 2-aminoethoxymethylferrocene from solution, and were characterized by cyclic

voltammograms and FTIR spectra.

ACCESSION NUMBER: 1996:202724 HCPLUS

DOCUMENT NUMBER: 125:34293

TITLE: Post-polymerization functionalization of conducting polymers. Novel poly(alkylthiophene)s substituted

with

easily replaceable activated ester groups

AUTHOR(S): Baeuerle, Peter; Hiller, Markus; Scheib, Stefan;

CORPORATE SOURCE: Sokolowski, Moritz; Umbach, Eberhard

Inst. Org. Chem., Univ. Wuerzburg, Wuerzburg, D-97074,

SOURCE: Germany

Advanced Materials (Weinheim, Germany) (1996), 8(3), 214-18

CODEN: ADVMEW; ISSN: 0935-9648

PUBLISHER: VCH

DOCUMENT TYPE: Journal

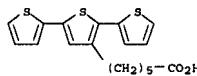
LANGUAGE: English

IT 178183-07-8P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (intermediate, monomer preparation and one-step post-polymerization-functionalization poly(alkylthiophenes) substituted with activated ester groups)

RN 178183-07-8 HCPLUS

CN [2,2':5',2''-Terthiophene]-3'-hexanoic acid (9CI) (CA INDEX NAME)



IT 178183-09-ODP, reaction products with 2-aminoethoxymethylferrocene

RN 178183-09-0P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (monomer preparation and one-step post-polymerization-functionalization poly(alkylthiophenes) substituted with activated ester groups)

RN 178183-09-0 HCPLUS

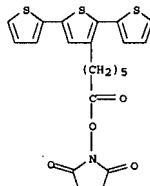
CN 2,5-Pyrrolidinedione, 1-[(1-oxo-6-[2,2':5',2''-terthiophen]-3'-ylhexyl)oxy]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 178183-08-9

CMP C22 H21 N 04 S3

L16 ANSWER 35 OF 37 HCPLUS COPYRIGHT 2007 ACS on STN (Continued)



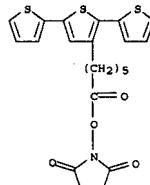
RN 178183-09-0 HCPLUS

CN 2,5-Pyrrolidinedione, 1-[(1-oxo-6-[2,2':5',2''-terthiophen]-3'-ylhexyl)oxy]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 178183-08-9

CMP C22 H21 N 04 S3



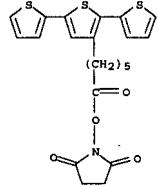
IT 178183-08-9P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (monomer, monomer preparation and one-step post-polymerization-functionalization poly(alkylthiophenes) substituted with activated ester groups)

RN 178183-08-9 HCPLUS

CN 2,5-Pyrrolidinedione, 1-[(1-oxo-6-[2,2':5',2''-terthiophen]-3'-ylhexyl)oxy]- (9CI) (CA INDEX NAME)

L16 ANSWER 35 OF 37 HCPLUS COPYRIGHT 2007 ACS on STN (Continued)



L16 ANSWER 35 OF 37 HCPLUS COPYRIGHT 2007 ACS on STN

ED Entered STN: 07 Jun 1995

AB A photochromic spironaphthoxazine group was covalently bonded in the 3 position of thiophene and in the 3' position of terthiophene. The electrochem. and spectroscopic properties of these compds. were characterized, together with their photochromic properties, associated with

the ring opening of the naphthoxazine moiety under light excitation, which occurs in solution and even in the solid state of these compds.

Electropolymer. into spironaphthoxazine functionalized poly(thiophenes)

was only successful with the terthiophene derivative, due to the relief of steric hindrance and electronic effects on the thiophene units in this compound. The much lower photochromic properties of terthiophene homopolymer are associated with the compactness of this polymer.

ACCESSION NUMBER: 1995:591996 HCPLUS

DOCUMENT NUMBER: 122:315258

TITLE: Synthesis and Characterization of Poly(thiophenes) Functionalized by Photochromic Spironaphthoxazine Groups

AUTHOR(S): Yassar, A.; Moustrou, C.; Youssoufi, H. Korri, Samat, A.; Guglielmetti, R.; Garnier, F.

CORPORATE SOURCE: Laboratoire des Matériaux Moléculaires, CNRS, Thiais, 94 320, Fr.

SOURCE: Macromolecules (1995), 28(13), 4548-53

CODEN: MAMOBX; ISSN: 0024-9297

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

IT 163463-80-7P, Ethyl 2,2':5',2''-terthiophene-3'-acetate

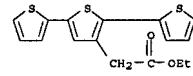
163463-81-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (intermediate in monomer preparation, preparation, characterization,

and electrochem. polymerization of spironaphthoxazine-functionalized thiophenes)

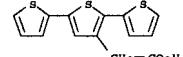
RN 163463-80-7 HCPLUS

CN [2,2':5',2''-Terthiophene]-3'-acetic acid, ethyl ester (CA INDEX NAME)



RN 163463-81-8 HCPLUS

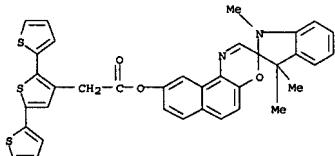
CN [2,2':5',2''-Terthiophene]-3'-acetic acid (9CI) (CA INDEX NAME)



L16 ANSWER 36 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

IT 161874-44-8
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); (monomer; preparation, characterization, and electrochem. polymerization of spironaphthoxazine-functionalized thiophenes)

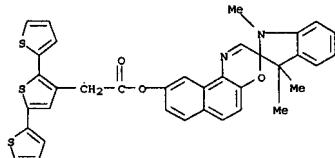
RN 161874-44-8 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, 1,3-dihydro-1,3,3-trimethylspiro[2H-indole-2,3'-(3H)naphth[2,1-b][1,4]oxazin]-9'-yl ester (9CI) (CA INDEX NAME)



IT 161874-45-9
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); (preparation, characterization, and electrochem. polymerization of spironaphthoxazine-functionalized thiophenes)

RN 161874-45-9 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, 1,3-dihydro-1,3,3-trimethylspiro[2H-indole-2,3'-(3H)naphth[2,1-b][1,4]oxazin]-9'-yl ester, homopolymer (9CI) (CA INDEX NAME)

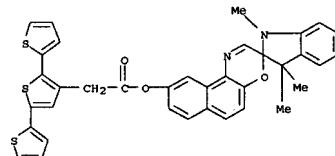
CM 1

CRN 161874-44-8
CMP C36 H28 N2 O3 S3

L16 ANSWER 37 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 21 Mar 1995
AB A photochromic spironaphthoxazine group is covalently bonded to the 3'-position of terthienyl and the 3-position of thiophene; electropolymerization into spironaphthoxazine-functionalized polythiophene only occurs with the use of the spironaphthoxazine-terthiophene compound as the monomer.

ACCESSION NUMBER: 1995:427413 HCAPLUS
DOCUMENT NUMBER: 122:188348
TITLE: Synthesis and electropolymerization of terthienyl carrying a photochromic group
AUTHOR(S): Vassar, Abd errahim; Moustrou, Corrine; Youssoufi, Hafsa; Korri, Samat, Andre; Guglielmetti, Robert; Granier, Francis
CORPORATE SOURCE: Lab. Matériaux Mol., CNRS, Thiais, 94 320, Fr.
SOURCE: Journal of the Chemical Society, Chemical Communications (1995), (4), 471-2
CODEN: JCCCAT; ISSN: 0022-4936
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
IT 161874-44-8 161874-45-9
RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent); (preparation and electropolymerization of photochromic spironaphthoxazine containing terthienyl)

RN 161874-44-8 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, 1,3-dihydro-1,3,3-trimethylspiro[2H-indole-2,3'-(3H)naphth[2,1-b][1,4]oxazin]-9'-yl ester (9CI) (CA INDEX NAME)



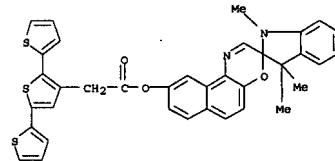
RN 161874-45-9 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, 1,3-dihydro-1,3,3-trimethylspiro[2H-indole-2,3'-(3H)naphth[2,1-b][1,4]oxazin]-9'-yl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 161874-44-8
CMP C36 H28 N2 O3 S3

L16 ANSWER 37 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

L16 ANSWER 37 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



07/08/2007,10531330d.trn

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CA SUBSCRIBER PRICE	-28.86	-84.24

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FULL ESTIMATED COST	200.19	1273.37

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-28.86	-84.24

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DICTIONARY FILE UPDATES: 6 AUG 2007 HIGHEST RN 944108-38-7

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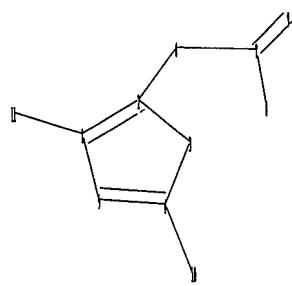
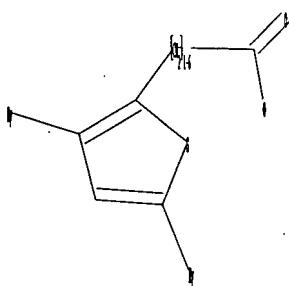
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<http://www.cas.org/support/stngen/stndoc/properties.html>

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chain nodes :

6 7 8 9 10 11

ring nodes :

1 2 3 4 5

chain bonds :

1-11 2-6 4-10 6-7 7-8 7-9

ring bonds :

1-5 1-2 2-3 3-4 4-5

exact/norm bonds :

1-5 1-2 1-11 2-3 3-4 4-5 4-10 7-8 7-9

exact bonds :

2-6 6-7

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:CLASS 7:CLASS 8:CLASS 9:CLASS 10:Atom
11:Atom

Generic attributes :

10:

Saturation : Unsaturated
Number of Carbon Atoms : less than 7
Type of Ring System : Monocyclic

11:

Saturation : Unsaturated
Number of Carbon Atoms : less than 7
Number of Hetero Atoms : Exactly 1
Type of Ring System : Monocyclic

Element Count :

Node 11: Limited

S,S1

C,C4

O,O0

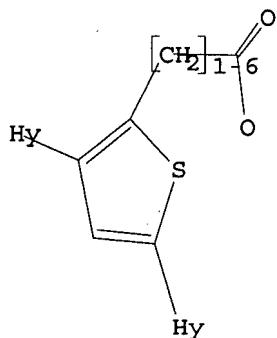
N,N0

L17 STRUCTURE UPLOADED

=> d 117

L17 HAS NO ANSWERS

L17 STR



Structure attributes must be viewed using STN Express query preparation.

=> s 117

SAMPLE SEARCH INITIATED 14:33:53 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 5337 TO ITERATE

37.5% PROCESSED 2000 ITERATIONS 0 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 102360 TO 111120
PROJECTED ANSWERS: 0 TO 0

L18 0 SEA SSS SAM L17

=> s 117 full
FULL SEARCH INITIATED 14:33:57 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 106289 TO ITERATE

100.0% PROCESSED 106289 ITERATIONS 6 ANSWERS
SEARCH TIME: 00.00.01

L19 6 SEA SSS FUL L17

	SINCE FILE	TOTAL
	ENTRY	SESSION
COST IN U.S. DOLLARS		
FULL ESTIMATED COST	172.10	1445.47
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	0.00	-84.24

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FILE LAST UPDATED: 6 Aug 2007 (20070806/ED)

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=> s 119
L20 2 L19.

=> d ed abs ibib hitstr tot

L20 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN
 ED Entered STN: 24 Nov 2005
 GI.



AB The 5-membered heterocyclic compds. I (ring A indicates Q1, Q2, or Q3; R1 = (un)substituted aryl; R2 = substituted alkyl; R3 = (un)substituted aryl, (un)substituted heterocyclyl, (un)substituted alkyl; R4 = H, (un)substituted alkyl; when R1 = R3 = Ph, then R2 = carboxymethyl, ethoxycarbonylmethyl) or their pharmaco. acceptable salts are used for high-conductance Ca-sensitive K channel openers, useful for treatment of urinary frequency, urinary incontinence, cerebral infarction, subarachnoid

hemorrhage, etc. Alternatively, the 5-membered heterocyclic compds. I (ring A indicates Q4, Q5, or Q6; R1 = (un)substituted thiienyl, aryl substituted with 2 halogen atoms; R2 = substituted alkyl; R3 = (un)substituted aryl, (un)substituted heterocyclyl, (un)substituted alkyl;

R4 = H, (un)substituted alkyl; when R1 = 2-thienyl, then R3 = 2-thienyl) or their pharmaco. acceptable salts are used for high-conductance Ca-sensitive K channel openers. II (prepared in 5 steps from 3-bromo-2-formylfuran) inhibited K⁺-induced contraction of rabbit bladder samples with IC₅₀ of 50.5 μM.

ACCESSION NUMBER: 20051240726 CAPLUS

DOCUMENT NUMBER: 143:472612

TITLE: Use of five-membered heterocyclic compounds for high-conductance calcium-sensitive potassium channel openers

INVENTOR(S): Hosaka, Toshihiro; Kusama, Mari; Oba, Kiyomi; Kono, Rikako; Kohnomi, Shuntaro

PATENT ASSIGNEE(S): Tanabe Seiyaku Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 43 pp.

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

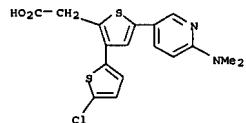
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005325103	A	20051124	JP 2005-115251	20050413
PRIORITY APPLN. INFO.:			JP 2004-117430	A 20040413

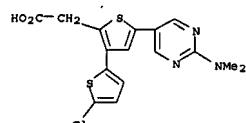
OTHER SOURCE(S): MARPAT 143:472612
 IT 683252-12-2P 683252-14-4P 683252-19-9P
 683252-21-3P

L20 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



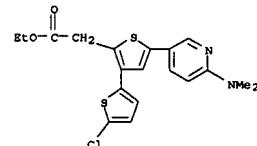
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RN 683252-21-3 CAPLUS
 CN [2,3'-Bithiophene]-2'-acetic acid, 5-chloro-5'-(2-(dimethylamino)-5-pyrimidinyl)-, sodium salt (9CI) (CA INDEX NAME)

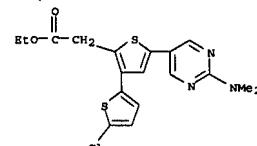


● Na

L20 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)
 RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USE9 (Uses)
 (prepn. of five-membered heterocyclic compds. for high-conductance calcium-sensitive potassium channel openers)
 RN 683252-12-2 CAPLUS
 CN [2,3'-Bithiophene]-2'-acetic acid, 5-chloro-5'-(6-(dimethylamino)-3-pyridinyl)-, ethyl ester (9CI) (CA INDEX NAME)

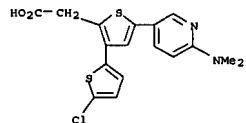


RN 683252-14-4 CAPLUS
 CN [2,3'-Bithiophene]-2'-acetic acid, 5-chloro-5'-(2-(dimethylamino)-5-pyrimidinyl)-, ethyl ester (9CI) (CA INDEX NAME)



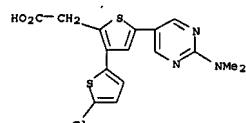
RN 683252-19-9 CAPLUS
 CN [2,3'-Bithiophene]-2'-acetic acid, 5-chloro-5'-(6-(dimethylamino)-3-pyridinyl)-, sodium salt (9CI) (CA INDEX NAME)

L20 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



● Na

RN 683252-21-3 CAPLUS
 CN [2,3'-Bithiophene]-2'-acetic acid, 5-chloro-5'-(2-(dimethylamino)-5-pyrimidinyl)-, sodium salt (9CI) (CA INDEX NAME)



● Na

L20 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN

ED Entered STN: 30 Apr 2004

AB There are disclosed large conductance Ca-activated K channel openers (I, e.g.

5-(4-methylthiophenyl)-2-(5-chlorothien-2-yl)furan-3-ylacetic acid sodium salt (II) containing any one of O, N or S, which ring may be N-substituted by R4; R1 is aryl, heterocyclic or heterocycle-substituted carbonyl; R2 is H, halogen, carboxy, amino, alkyl, alkoxy carbonyl, alkenyl or cycloalkyl; R3 is aryl, heterocyclic or alkyl; and R4 is H or alkyl; each of substituents may be substituted; addnl. details are given in the claims) or a pharmaceutically acceptable salt thereof as an active ingredient. Although the methods of preparation are not claimed, example prepn. and/or characterization data for

apprx. 60 examples of I are included. For example, II was prepared in 6 steps (28, 59, not given, 58, 71, not given % yields, resp.) starting with coupling of 3-formylfuran-2-ylboronic acid with 2-bromo-5-chlorothiophene to give 2-(5-chlorothien-2-yl)furan-3-carboxaldehyde, which was converted to Et 2-(5-chlorothien-2-yl)furan-3-ylacetate, then Et 2-[5-bromo-2-(5-chlorothien-2-yl)furan-3-yl]acetate, then Et 2-[5-(4-methylthiophenyl)-2-(5-chlorothien-2-yl)furan-3-yl]acetate using (4-methylthiophenyl)boronic acid, followed by base hydrolysis to the acid followed by conversion to the sodium salt. The relaxation effect on K⁺-induced contraction of isolated rabbit urinary bladder and the inhibitory effect on the rhythmic bladder contractions induced by substance P in anesthetized rats were determined for 8 and 6 examples of I, resp. Expts. involving iberiotoxin, a selective large conductance calcium

activated K channel blocker, suggest that I have a detrusor relaxing activity through the large conductance calcium activated K channel.

ACCESSION NUMBER: 2004354933 CAPLUS

DOCUMENT NUMBER: 140:375064

TITLE: Preparation of 5-membered heterocycle-substituted acetic acid derivatives as large conductance calcium-activated K channel openers for pollakiuria

or

urinary incontinence

INVENTOR(S): Hosaka, Toshihiro; Kusama, Mari; Ohba, Kiyomi; Kono, Rikako; Kohnomi, Shuntaro

PATENT ASSIGNEE(S): Tanabe Seiyaku Co., Ltd., Japan

SOURCE: PCT Int. Appl. 90 pp.

CODEN: PIIXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

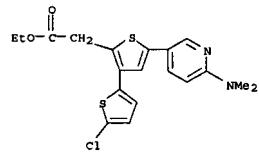
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004035570	A1	20040429	WO 2003-0P13194	20031015
W: AB, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, IE, GH, GR, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MN, MW, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RU, SC, SD, SE, SG, SK, SL, ST, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				

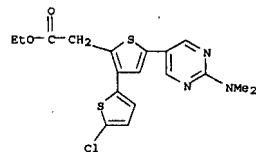
L20 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)
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 FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,
 BP, BJ, CF, CG, CI, CM, GA, GN, GO, GW, ML, MR, NE, SN, TD, TG
 CA 2501979 A1 20040429 CA 2003-2501979 20031015
 AU 20032272099 A1 20040504 AU 2003-272099 20031015
 EP 1556376 A1 20050727 EP 2003-754140 20031015
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
 BR 2003015386 A 20050823 BR 2003-15386 20031015
 CN 1705659 A 20051207 CN 2003-80101508 20031015
 JP 2006503111 T 20060126 JP 2005-501348 20031015
 NZ 539902 A 20070531 NZ 2003-539902 20031015
 MX 2005PA03972 A 20050622 MX 2005-PA3972 20050414
 US 2006135597 A1 20060622 US 2005-531330 20050414
 NO 200502023 A 20050510 NO 2005-2023 20050426
 PRIORITY APPLN. INFO.: JP 2002-300860 A 20021015
 JP 2003-104260 A 20030408
 WO 2003-JP13194 W 20031015

OTHER SOURCE(S): MARPAT 140:375064
 IT 683252-12-2P, Ethyl 3-(5-chlorothien-2-yl)-5-(6-(dimethylamino)pyridin-3-yl)thiophene-2-acetate 683252-14-4P,
 Ethyl 3-(5-chlorothien-2-yl)-5-(2-(dimethylamino)pyrimidin-5-yl)thiophene-2-acetate
 RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
 (drug candidate; preparation of 5-membered heterocycle-substituted acetic acid derivs. as large conductance calcium-activated K channel openers for pollakiuria or urinary incontinence)
 RN 683252-12-2 CAPLUS
 CN [2,3'-Bithiophene]-2'-acetic acid, 5-chloro-5'-(6-(dimethylamino)-3-pyridinyl)-, ethyl ester (9CI) (CA INDEX NAME)



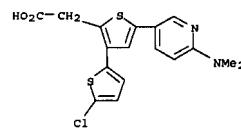
RN 683252-14-4 CAPLUS
 CN [2,3'-Bithiophene]-2'-acetic acid, 5-chloro-5'-(2-(dimethylamino)-5-

L20 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)
 pyrimidinyl)-, ethyl ester (9CI) (CA INDEX NAME)



IT 683252-19-9P, 3-(5-Chlorothien-2-yl)-5-(6-(dimethylamino)pyridin-3-yl)thiophene-2-acetic acid sodium salt 683252-21-3P,
 3-(5-Chlorothien-2-yl)-5-(2-(dimethylamino)pyrimidin-5-yl)thiophene-2-acetic acid sodium salt
 RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (drug candidate; preparation of 5-membered heterocycle-substituted acetic acid derivs. as large conductance calcium-activated K channel openers for pollakiuria or urinary incontinence)

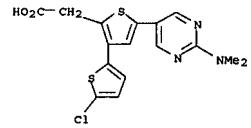
RN 683252-19-9 CAPLUS
 CN [2,3'-Bithiophene]-2'-acetic acid, 5-chloro-5'-(6-(dimethylamino)-3-pyridinyl)-, sodium salt (9CI) (CA INDEX NAME)



● Na

RN 683252-21-3 CAPLUS
 CN [2,3'-Bithiophene]-2'-acetic acid, 5-chloro-5'-(2-(dimethylamino)-5-pyrimidinyl)-, sodium salt (9CI) (CA INDEX NAME)

L20 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



● Na

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